

LEARNING AND TEACHING IN THE INFANTS' SCHOOL

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WITH EIGHT HALF TONE PLATES AND OTHER ILLUSTRATIONS

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TO
ALL MY STUDENTS
BOTH PAST AND PRESENT

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As a servant of the London County Council, I am required to state that the Council is in no way responsible for the views expressed in this work.

FOREWORD

THE primary object of this book is to demonstrate the practical application of psychological principles to the education of the child under eight. Step by step its chapters trace the general course of the child's development from the "play" attitude that predominates at the age of three to the "work" attitude that should predominate when the child leaves the infants' department; and at every stage illustrate in concrete detail how the "activity curriculum," so strongly recommended in the recent *Report on the Infants' and Nursery School*, may be carried out even in large classes and in a somewhat restricted environment.

At the outset Miss Hume designed to write a manual for students who are being trained as teachers of infants. Now that the book is completed, it is obvious that it will be of equal value to teachers of experience—indeed, I venture to say, of *more* value; for the experienced teacher will have already met the problem in the concrete, and will appreciate the solutions suggested. Even inspectors, school psychologists, and school doctors will find it helpful: for often they can easily see that something is wrong with the methods used for a particular child or in a particular classroom, but they cannot quite think what practical suggestion to make.

At a recent educational conference two inspectors were discussing the Infants' School. The first observed, a little dolefully: "The Infants' department *used* to be the most advanced of the three!" The second, still more sarcastically, retorted: "You mean some of them!" These passing comments, spoken perhaps in a spirit of playful cynicism, nevertheless deserve to be taken quite

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seriously by everyone who is engaged in the teaching of infants. They fling down a challenge. I venture to say that, of all the departments, the infants' is the most important; it should *always* be "the most advanced of the three." Every infants' school that is already in the van of progress should make its aim to remain there: the aim of the others should be to catch up with the best.

Both these aims will be greatly assisted by Miss Gertrude Hume's new book. She has collected, and condensed into very concise paragraphs, all the best devices to be found in the more progressive schools, and has appended a large number of her own. Her wide experience has enabled her to survey schools of almost every type, and to record the best that can be found. In addition, her ingenuity and insight have enabled her to plan a number of teaching methods, which are based on sound psychology and have been tried out in actual practice by her own pupils. Those who follow her suggestions will, therefore (so far as it is possible to learn such things from books at second hand), really be adopting the very methods that have already brought success to the successful school. Further, by catching the spirit and accepting the general principles that inspire Miss Hume's pages, they will be able, not merely to copy the concrete devices she describes, but (what is far more desirable) to go forward in the same scientific way, meeting their own special problems, making their own adjustments, and, by constant experiment and observation, learning how to aid the dull child more effectively and how to make the utmost of the bright.

Every psychologist, I think, will agree that the teaching in the infants' department is at once the most crucial and the most difficult. Psychology has of late insisted that the child's character and mind are formed during

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the pre-school years. It would, however, be a mistake to suppose that the formative process ceases abruptly when the child enters the classroom. If the pre-school years are the most important, those that immediately follow are the next in importance.

Nevertheless, during this period efficient teaching is exceptionally difficult, because then the child is further removed from the natural condition of the adult than at any subsequent stage. It is not merely that his powers are ill developed: one is tempted to say that they have scarcely started developing at all. It is not merely that he has almost everything to learn: he has first to learn *how* to learn. During the war, it was not uncommon for young women, with little or no experience and training, to be placed in various schools to fill the gaps left by other teachers, women as well as men, who had been required for different duties. It was often noted by inspectors that, where the older boys and girls were concerned, provided the new teacher knew her subject and had a reasonable measure of intelligence and personality, she quickly picked up her task; nor was it easy for the outsider to detect her lack of experience or to discover any serious deterioration in the children's work. In the infants' school, on the other hand, any want of experience was conspicuous at once, and proved a most painful handicap both to the newcomer and to the children.

If that was true twenty years ago, it is still more true to-day. The teaching of reading, of writing, of number, and, indeed, of all the other mental and moral processes that have to be acquired in the infants' school, demands a special technique, or rather a set of techniques. These have now been worked out, partly on a practical basis, partly in the light of psychological deduction. Often the technique involves a knowledge of the best type of apparatus and how to use it. Such

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things were not as a rule to be found in books. They were sometimes imparted in training college courses. More frequently they had to be picked up by one teacher from another. But Miss Hume's little volume will now fulfil this want. It endeavours to put the varying experience of each at the command of all, and the accumulated wisdom of the older hands at the disposal of the younger novice.

CYRIL BURT.

NOTE TO NEW EDITION, 1948

IN this new edition the chapter on the development of Infants' Education has been brought up to date to cover the period of the war and the suggestions made in the Education Act of 1944. The chapter on the Nursery Age had been revised and a new chapter on Handwork has been added. The purpose of this chapter is to bring together under one heading the suggestions made throughout the book and to offer some suggestions for the pursuit of handicraft as an end in itself rather than as a mode of expression of other ideas.

The Book lists have been brought up to date.

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CHAPTER I

BRIEF ACCOUNT OF THE DEVELOPMENT OF THE INFANTS' SCHOOL FROM 1870 TO THE PRESENT DAY

OUR English Infants' School has an interesting history. It is unique in the sense that it makes State provision, within the Elementary School System, for the education of children from five and, in some areas, from three years of age, while in most other countries the age of admission is six years.

This earlier age of school entrance has undoubtedly, in the past, affected adversely the curriculum for the youngest children. In 1870, when the first Education Act was passed, our Elementary Schools were still under the influence of the system of "payment by results." Teachers were over-anxious for success in the three "R's," and their energy was largely devoted towards obtaining good results in these subjects, since, in some measure, their "bread and butter" depended upon this success.

It was perhaps a natural, though quite a mistaken idea, that the sooner the teaching of the three "R's" was begun, the better would be the result achieved. In

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the latter years of the nineteenth century, then, the main aim of the Infants' School appeared to be instruction in the elements of reading, writing and number. It was common to find large classes of very little children, seated in rows upon galleries, in a state of passive endurance, while the teacher struggled to teach them to count and to spell short words. Teaching was usually mechanical and discipline strict where these conditions prevailed.

When we compare this state of affairs with the life in a modern nursery class of thirty to thirty-five children, in a bright and attractive-looking room, with furniture adapted to a little child's needs, and with a choice of interesting activities, we realise that great progress has been made, although to some educationists this progress seems to have been far too slow.

Another interesting feature of our Infants' Schools is their great variety, for it is possible, even to-day, to find scattered over the country, schools, which in equipment, methods of teaching and discipline, differ very little from those of the late nineteenth century. In large towns, for instance, we may find within a few minutes' walk of each other, a "pioneer" school, in which there are nursery classes for the youngest children, followed by an activity curriculum for older infants, and a school in which the older ideas of collective teaching in the three "R's" and set lessons in handwork, drawing or plasticene, are still the order of the day.

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The reason for this disparity is that, in our country, the curriculum and methods are not prescribed by the central authority or even by the local education body. Valuable "suggestions" in the form of reports on various aspects of the curriculum are issued from time to time by the Board of Education; local education authorities, by a scheme of lectures and refresher courses, bring teachers into touch with recent developments in educational theory and practice; inspectors pay friendly visits to the schools to offer advice as to curriculum and encouragement of independent effort, but no *compulsion* is brought to bear upon head teachers. The welfare of the school lies in their hands; it is through their initiative and enthusiasm that a school keeps abreast of the times.

Obviously, this freedom has both advantages and disadvantages. The vigorous-minded teacher is free to go ahead, and is able to effect changes in curriculum and methods of teaching in a way that would be impossible with syllabuses prescribed by a central authority. On the other hand, the less progressive, conservative-minded teachers may cling to out-of-date ideas as to curriculum and adhere to teaching practices which definitely hinder their children's development.

It is interesting to reflect upon the influences that have contributed to the great change in Infants' Schools since the early days of compulsory education.

The Influence of Froebel

Many years before the passing of the 1870 Act, Frederick Froebel (1782-1852) was engaged in a study of education from which finally emerged his idea of the Kindergarten, a first school for little children, where in home-like conditions they should be free to give expression to their spontaneous play activities. The development of the Kindergarten idea led to the training of women as teachers of young children. After Froebel's death this band of enthusiastic Froebelian teachers travelled far and wide to lecture upon the principles and practice of their great master.

In England, and particularly in the great towns, courses of lectures were held, which were attended by Infants' School teachers. Inspired by what they heard of Froebel's ideas, they attempted to put them into practice in their own schools, often, it must be admitted, with disastrous results, for the essence of Froebel's teaching is that little children shall live in a condition of reasonable freedom, in close touch with Nature, and shall spend their days in various kinds of self-directed activity under the guidance of an enlightened teacher.

This conception could not be applied in our barracks-like Infants' Schools, with their classes of sixty or more children. So the "Kindergarten" became, in fact, a "subject" on the time-table, instead of a place in which children could grow and develop like healthy plants in

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a garden. The little "gifts and occupations," designed by Froebel to give free constructive activity, were eagerly adopted in the schools, for the material was inexpensive to manufacture and was supplied liberally by Education Authorities. From 1870 to somewhere about 1900 it was common to find classes of sixty children at work with one of these gifts—for example, a small box of eight wooden cubes. Teaching was generally mechanical, boxes being opened to numbers, objects built to dictation, while, as a reward for careful work, a few minutes was allowed at the end of the lesson to "do anything you like" before the little bricks were returned to their boxes with almost military precision. Many schools thus entirely misinterpreted the nature of the Froebelian principles, as may be gathered from the frequent adverse comments made by the Board of Education Inspectors between the years 1870 and 1905. (See *I. and N. Report*, pages 19 to 30.)

There were, however, some teachers of more enlightened mind, who did grasp the essentials of the Froebelian method, and strove by every means in their power to give more freedom in their schools. Without abandoning the idea that an Infants' School was the place to lay the foundations of reading, writing and number, they tried at the same time to include in the school programme some of the really fundamental Froebelian ideas. In some schools little gardens were laid out in the playgrounds, where the children could

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dig, sow seeds, watch their plants grow and observe the visits of the bees and butterflies to their flowers; while the care and study of animals were induced by the keeping of pets.

As the numbers in the classes began to decrease, games and occupations became freer in treatment, while an easier system of discipline led to a more friendly relationship between teachers and children. There was also a noticeable tendency in these schools to postpone the teaching of the three "R's" at least until the children left the babies' class, and to shorten the length of these lessons for all children under seven.

Less successful was the attempt to express Froebel's principle of the unity of a child's life and experience by the introduction of correlated schemes of work. Since at that time there was no real belief that a child's interests were important in school, these schemes were planned by the teacher, and consisted of series of oral lessons on isolated topics, such as an apple one week, to be followed by a horse the next, a snowdrop or a twig the third, the correlation being sought through expression work of various types, forced to revolve round the particular topic. Stilted and unnatural teaching was the result of this effort, although as a relief from the routine of number and reading, the lessons probably afforded a welcome change to the children.

In the first decade of the twentieth century, then, a *good* Infants' School was one which kept the balance

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between instruction in the three "R's" and expression work of one type or another. Even in the best schools, teaching was still collective for all lessons, and although teachers must have been fully conscious of the individual differences among the members of their classes, generally speaking, every effort was made to ignore these differences. The child of superior ability was relegated to the pace of the average, while the slow and backward children were over-driven in the attempt to make them keep pace with the others. Indeed, to be too clever or too slow was, in reality, an equal misfortune for a child, while a teacher's chief concern was to get the whole class to cover exactly the same syllabus in the same time. That many children appeared to be reasonably happy under this régime must, however, be admitted.

The Froebel Society

In estimating the influences that have changed our Infants' Schools, a tribute must be paid to the Froebel Society. Through courses of lectures for teachers, through a system of examinations and the issue of Teaching Certificates, it has done much to spread a better understanding of Froebelian ideas.

The Influence of Montessori

The year 1910 marks a stage in the history of the Infants' School. In that year, Madame Montessori's book first appeared in an English translation, and the

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subsequent courses of lectures given by the Dotoressa in England soon effected great changes, both in organisation and methods of teaching.

The principles expounded by Montessori were not new. Her view that freedom in education is a necessary condition of growth and development had been emphasised by Froebel. Both educators agree in stressing the importance of self-activity and of self-chosen tasks. Both emphasise the necessity for the pupil to acquire knowledge through first-hand experience. Their conception of the teacher as a guiding, but not dominating, influence is almost identical. Both, too, are in agreement on the principle of a "prepared" environment, although they differ in their ideas as to the exact nature of that environment; both lay emphasis on the importance of a "sensory" basis for all future education, although again they differ as to the form of this "sensory training." Finally, both are agreed as to the importance of the study of Nature as the foundation of both intellectual and moral development in young children.

We may ask, then, why the Froebelian ideas, which were not understood by the great body of teachers of young children in the nineteenth century, should have been accepted with enthusiasm when expounded by Montessori.

The answer is to be found partly in the growth of opinion as to the "rights" of children, so that both parents and teachers were more open to receive Mon-

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tessori's idea of freedom for individual development, partly to the fact that Montessori's writing is less obscure, less tinged with mysticism than that of Froebel, but principally to the fact that Montessori was able to demonstrate how her principles could be applied, in some measure at least, to our large infants' classes.

In the Fröbelian school the unit of teaching is the group of eight to ten children; in the Montessori school the unit of teaching is the individual child. It was easier for a teacher in charge of a class of fifty children to plan work that could be done by a child alone than to supervise and teach, single-handed, several groups of children, still obliged to work in rooms furnished with desks arranged for class teaching.

The Application of Montessori's Ideas in Infants' Schools

The effect of Montessori's teaching can be seen in varying ways in our Infants' Schools. What seems to have been very generally understood and applied is the conception of physical freedom, for children now move about the classroom, and indeed the whole school, with freedom. The wasteful and laborious method of forming ranks to march in and out of school has been replaced by a natural, but still orderly, way of leaving or entering a building. Physical training shows a marked improvement in the freedom and joyousness of the games and simple exercises, while some Infants' Schools have gone

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so far as to substitute for all kinds of collective exercise the use of simple gymnastic apparatus, such as slide-boards and climbing-frame, and free play with pedal toys, balls, bats and shuttlecocks for the youngest children.

Changed, too, is the social atmosphere of many schools. Through the closer contact between teacher and children that arises from individual methods of teaching, a new relationship has sprung up. Children have grown accustomed to speaking more frankly and naturally; there is an absence of fear and constraint; the teacher is regarded more as a confidant and friend.

As to the degree of intellectual freedom that has been gained through the influence of Montessori's ideas, opinions must differ. In Montessori's system, intellectual freedom is gained by means of independent work with carefully graded apparatus, at first for sensory and perceptual development and, later, for the acquisition of skill in reading, writing and number.

In the early years of experiment along Montessorian lines, the material was sold only in sets, the cost of which was so great that few Education Authorities were willing to provide it for their Infants' Schools. In this they were wise, since previous experience had shown that the introduction of apparatus, the use of which is only partially understood, does more harm than good.

Teachers had, therefore, to make their own application of Montessori's idea of auto-education. Some

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whole-hearted enthusiasts bought the apparatus from their own funds, and equipped their babies' classes as far as possible in accordance with the Montessorian ideal. In these schools the work of the Montessori class was followed up by a system of individual work for the acquisition of notions of reading, writing and number, for the children from five to seven years of age.

It is in the planning of this work that the greatest variety has been shown. Some teachers established individual work on a really sound basis, others, clinging unconsciously to the tradition of collective work with its definite syllabus to be covered, merely turned the material of the old class lesson into so many individual "jobs" in reading and number. Work of this type could not, in any sense, be said to satisfy Montessori's ideal of the child as a self-active, self-directing agent responsible for the choice of his own task and free to work at this task for as long or short a time as he wished. In a later chapter we shall deal with the characteristics of good individual work.

Experiments with the Montessori apparatus soon led most teachers to the conclusion that the "didactic" material alone was not sufficient to satisfy the needs of young active-minded children. Most children seemed to pass very rapidly through the particular exercises for which a certain piece of apparatus was designed, and then tended to resort to imaginative play with the material. This was strictly against Montessori's prin-

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aples. Except for a few isolated pieces of material, the didactic apparatus has largely fallen into disuse in the Infants' School, and, at the present time, there appears to be hardly a single elementary school class which might be called in all respects a "Montessori" class.

So far we have dealt with the whole-hearted, enthusiasts who adopted the principle of individual teaching in its entirety; but it is more in accordance with our English temperament to seek a compromise between old and new ideas. Accordingly, many teachers endeavoured to combine the best of apparently conflicting methods, viz. those of collective and individual teaching. There were two types of organisation along these lines, one in which all the work in the three "R's" was done individually, while collective teaching was retained for story-telling, music, physical and manual activities; and, secondly, an organisation that had as its foundation several approximately homogeneous groups in each classroom, with a programme of closely related group and individual activity, not only in reading, writing and number, but also for art and constructive play activities. Collective lessons were retained only for music, verse-speaking, poetry and story-telling, where the value of the teaching is enhanced by crowd emotion.

But the contribution made by Montessori to our Infants' Schools must not be underestimated. It is no exaggeration to say that she has influenced profoundly

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the whole attitude of teachers of little children, and has caused them to realise that the individual differences among children are not tiresome facts to be ignored, but interesting manifestations of the life-urge to which great attention should be paid.

The Activity School

Within the last few years there has been a noticeable attempt to strike out on much bolder and freer lines in some of our Infants' Schools.

Schools of this type have organised their curriculum on what might be called "activity" lines, their object being to give scope for the expression of a child's love of experiment and investigation, and to provide opportunity for the development of muscular skill.

In the schools where this conception of the curriculum prevails, all formal work, such as sitting still for a certain length of time, performing specified tasks, however pleasurable these may be, has disappeared. When we enter a classroom in one of these schools, we may find it transformed into a row of shops or houses, a multiple store, a market or a railway station.

Even less organised activities than these may often be observed, for one group of children may be occupied in make-believe play at weddings, hospitals, or funerals, while another group is at work building a large boat, an aeroplane or a bus. In these activities the greater number of children participate whole-heartedly, without

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restriction of time and with an entire absence of domination from the teacher. At the same time equal freedom and opportunity to acquire skill is given to the child who may show an early interest in reading or number.

This principle of learning through activity, of gaining first-hand experience of varied material through constructive and make-believe play must be traced to Professor Dewey (born 1859).

The Influence of Dewey

While Professor of Education at Chicago University, Dewey opened an experimental school designed to test his views on education. In the belief that it is only through the satisfaction of a child's natural interests that personality will be harmoniously developed, Dewey substituted for the conventional classroom, planned for passive learning, an environment that would afford opportunity for learning through direct experience.

From the earliest days in school, children were to be free to investigate and ask questions, to work with a variety of tools and materials, to build, dig, sew, weave, cook, draw and paint, model with plastic materials, to keep house and play at shops. The spirit of competition was replaced by one of mutual help and co-operation.

The teacher's function was to direct the children's activity so that interest was lifted to a higher plane of intellectual development, through the study of certain

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centres of interest. These interests were selected as being the fundamental interests of men at all times and in all places, the home with its activities relating to the provision of food, clothing and shelter; the occupations of the immediate environment and the service that they render to the child's life; the origins of occupation and their significance for racial progress.

Dewey's pioneer work in curriculum-making aroused the deepest interest both in America and in other countries, and led to similar experiments, such as the Fielden School in Manchester and the Decroly School in Belgium, while in America it gave rise to the method of working through "projects."

Dewey's views have undoubtedly exercised a profound influence on the theory of the best education for young children, yet they have been slow to penetrate our Infants' Schools. The reason is to be found in the difficulty of putting them into practice in town buildings with little or no space for active experiment. But where a curriculum is planned in the *spirit* of Dewey's suggestions for "learning through activity" the result is invariably the same: the work grips the children's interest and attention and exercises a strong influence upon their intellectual and emotional development.

The Influence of Margaret Macmillan

No outline of the influences that have affected the education of young children would be complete without

reference to Margaret Macmillan, although her work was concerned chiefly with children of Nursery School age. The spirit of her work is seen at its best in the separate Nursery School, planned expressly for children from two to five years of age, but it has also penetrated to the Infants' School, where many nursery classes approximate closely to the Nursery School by their provision for sleep and simple unorganised play activities in an atmosphere of freedom and friendly guidance from the teacher.

The Effect of the War Years. 1939-1945

There was both loss and gain in the progress of the education of young children during the years of the war.

The loss was chiefly to the children between the ages of five and seven years, who normally attend an Infants' School.

The evacuation of large numbers of young children from the danger zones to areas of comparative safety broke the continuity of a child's education in the two important years between five and seven years. In the early stages of evacuation children went out as *school* units, accompanied by some, at least, of their teachers and by the head mistress of the school. But school conditions in the reception areas were difficult. The country schools naturally could not accommodate even whole classes, much less whole school units, in their small and often already overcrowded buildings, so that

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resort had to be made to expedients such as part-time education or the use of church halls and similar buildings for the education of the evacuees.

The result of this upheaval was to affect progress, although teachers did their utmost to keep up the standard of work, more especially in the three "R's."

Against the poor school conditions we may, however, set the advantage, that where the children were placed in towns by the sea or in places in the heart of the country, they did gain a wealth of new first-hand experience from this contact with nature.

The slow onset of the war affected evacuation: since nothing serious happened at first many children returned to their homes and the school units dwindled, so that the children who remained were gradually absorbed into the local schools.

When concentrated bombing of the large towns, particularly of London, began there was a fresh exodus of children, but this time as family parties or as individuals. Naturally these children were admitted to the local schools of the area, where they had to make a fresh start. Throughout the war these waves of evacuation and return continued, bringing with them constant change and a lack of continuity in education.

Conditions were also difficult for the children who remained behind in the large towns. At first, there was little or no schooling for the younger children: then as air-raid shelters were constructed in the schools, school

life began again, but under very different conditions from pre-war days.

The loss of Infants' School buildings to the various A.R.P. services and to the Social services, the destruction of other buildings and of furniture, apparatus, books and material for activities, made the teachers' work extremely difficult. Again, since the school day was often broken by time spent in air-raid shelters or by late attendance or non-attendance after a severe night raid, the school work that was done had to be confined chiefly to instruction in the three "R's."

The one real gain to the children was on the physical side. With the inauguration of the school meals service, it was possible for every child to have a suitable and substantial meal in the middle of the day. This, with the addition of a daily ration of milk, produced a noticeable improvement in the physique of many children, some of whom learned for the first time to eat a satisfying and balanced midday meal, instead of the piece of bread and jam or similar diet of pre-war days.

We can turn now to the brighter side of the picture—the care and attention given to the nurture of the child under five.

Evacuation of Nursery Schools as Units

All existing Nursery Schools had the opportunity of

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removing from the large towns as school units. These schools were established usually in large country houses, situated in good grounds—the houses having been offered to the Government for this purpose by their owners, before the war started.

Although some criticism has been levelled at the idea of removing such young children from the care of their mothers, in the main these residential Nursery Schools proved a great success and the gain to the children undoubtedly exceeded the loss of family life, especially when air raids became really severe.

Growth in physical well-being was marked: proper hours of sleep and daytime rest, a regular balanced diet, long hours of play in the open air and great attention to cleanliness and to the formation of good physical habits, effected an amazing change in most of the children.

Mental life received an equal stimulation, since most of the children came for the first time into real contact with country life. For the first time they saw the activities of the farm and the fields; for the first time they wandered through beautiful grounds or along the country lanes and learned to know the trees and flowers, the birds and insects, throughout the changing seasons.

The wealth of sensory experience gained through living in a natural environment developed powers of observation, perception and thought and induced a remarkable growth in power over language. That this

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growth in language was helped by living with their teachers throughout the day instead of for the usual Nursery School hours, must also be recognised.

The one drawback to the residential Nursery School was the need for a child to leave at five years of age, so that younger children might be admitted. Some five-year-olds returned to their parents' homes, while others were billeted in village homes and attended the local school. In either case there was a great break in the happy peaceful life as lived in the Nursery School.

From this experiment with residential Nursery Schools one fact emerges clearly—the need for young children to spend at least some part of the year in natural surroundings and under conditions of Nursery School life. Holiday Nursery Schools will undoubtedly be a feature of our plan for the education of young children in the future.

The War-time Day Nursery

Some children under five were evacuated with their mothers and billeted in private houses in country towns and villages. Since in the majority of cases these family parties were placed in small houses, the problem of overcrowding arose and it was found necessary to provide some form of school that children of two to five might attend for at least part of the day. From this beginning the scheme for War-time Nurseries arose and was

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widely extended as the mothers in the large towns were called up for some form of war service.

The first need was to train women to act as wardens and assistants to take charge of these nurseries. This was done by means of short intensive courses under the auspices of the Child Care Reserve Association. Large numbers of women of all ages came forward to undertake the training. They showed both enthusiasm and ability for the work and the majority were subsequently employed in war-time nurseries, where they did good work.

These war-time nurseries came under the direction of the Ministry of Health and were controlled for the most part by Borough Councils. As the need for more and more women war workers arose, the two-to-five nursery had to be extended to include still younger children and the nursery day now began at 7 a.m. and lasted until 7 p.m. For children under two years it was necessary to have trained nurses in charge and thus the common form of war-time nursery came to be directed by a matron, with nurses as assistants, while wardens and their assistants were responsible for the children of two to five years for the ordinary Nursery School hours. This was not a wholly happy arrangement from the point of view of the education of the two- to five-year-old group, but was probably the best that could be done in the circumstances. With the end of the war the care of children over two years of age

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will be in the hands of the Ministry of Education and will develop along the lines of the Nursery School movement.

The war-time nurseries have rendered good service to the nation, and it is the intention of the Ministry of Education to use the services of wardens and assistants in the period immediately following the war, by recognising those who are suitable as temporary teachers and to offer opportunities for further courses of training to qualify these women for recognition as permanent teachers or Nursery School assistants.

The Education Act

The Education Act of 1944 makes it compulsory upon Local Education Authorities to provide for the education of children under five years.

The type of nursery education will vary according to the needs of the area.

The following suggestions have been made:—

- (1) Small self-contained Nursery Schools with an age range of two to five years.
- (2) Larger Nursery Schools with the same age range.
- (3) Nursery Schools with age range two to seven years.
- (4) Nursery Classes attached to Infants' Schools.
- (5) Nursery Infants' Schools.

Preference is given to the *small self-contained Nursery School*, since it is felt that in a small school of, say, forty children, it is possible to approximate more nearly to

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the home-like conditions desirable for such young children.

A separate playroom is to be provided for the children under three years and this age group should not exceed ten in number.

All Nursery Schools must have adequate gardens—one-third acre for each group of forty children.

In some areas, such as the still-overcrowded districts of towns, where blocks of flats often predominate, the *larger* Nursery School will be necessary. This type of Nursery School will be organised in units of forty, and the garden space increased with each additional unit of forty.

It has always been felt that the transition at five years of age from the Nursery School to the more restricted conditions of the average Infants' School, however good that school may be, is detrimental to a child's continuous development.

As an experiment, therefore, it is proposed to allow some Nursery Schools to retain their pupils until seven years of age. Such schools will admit children only from two to five years of age and will not admit any child over five years. If careful records of development are kept it should then be possible to estimate the advantage to a child of continuous education in a two-to-seven Nursery School, as compared with

- (a) transference from a Nursery School at five years;

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- (b) no form of schooling until five years of age;
- (c) a period spent in a *Nursery Class* attached to an Infants' School, followed by education in the same Infants' School.

In country areas even the small Nursery School will often be an impossibility, since there will not be even forty children of the required age in one area.

For these children a *Nursery Class* will be necessary. The number of children in such a class must not exceed thirty. The playroom must be large, light and airy, with accommodation for sleep and a separate midday meal and separate outdoor playing place.

These classes may at first have to be staffed by temporary teachers, with experience, say, in a war-time nursery. The classes, whether they are actually on the same site as the Infants' School to which they are attached or in nearby premises, will be under the guidance of the head mistress of the Infants' School.

The *Nursery Infants' School* is also suggested. Before the war some development of the Infants' School with a Nursery Wing had been attempted. These schools usually had two playrooms for age groups three to four and four to five years, indoor lavatories, and sometimes a separate playground. These Nursery Wings, however, worked at great disadvantage as compared with the Nursery School, for there was no provision for a midday meal, there were less frequent visits from nurses and doctors and there were no nursery assistants.

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In spite of these disadvantages there is no doubt that, under the guidance of enlightened head mistresses, good work was done in these nursery classes and that on the purely educational side their work was in no way inferior to that done in the Nursery Schools.

Under the new regulations, the experimental Nursery Infants' School may admit children at two years of age, but will also continue to admit children over compulsory school age.

If records of children entering the nursery section at two years and continuing through the Infants' School are carefully kept, they should form an interesting ground for comparison with records of children who have spent the time from two to seven in a Nursery School.

From all these experiments in education of the under fives it will then be possible to decide the best form of education for young children in the future.

The scheme under the new Act is elastic, since it can be developed according to the needs of the particular community, while at the same time the essential uniformity of appropriate conditions is insisted upon. These conditions may be summarised as provision for:—

- (1) Frequent medical inspection.
- (2) The formation of good physical and social habits.
- (3) Indoor and outdoor play.
- (4) Balanced and appetising meals and suitable rest periods.

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(5) Development through sensory and perceptual experience.

Given the right teachers and superintendents there is no reason why these conditions should not be achieved in the various types of schools or classes.

In this brief outline an attempt has been made to trace the growth of an ideal for the education of young children, as a place that shall provide an instructive environment, with a curriculum conceived in terms of activity and experience, rather than of knowledge to be acquired and facts to be stored.

In the following chapters a suitable programme of activities for the various age groups will be discussed.

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Handbook of Suggestions for Teachers (New Edition), chap. ii.

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CHAPTER II

THE NURSERY AGE

For children between the ages of two and five years—whether in the Nursery School or Nursery Class—the type of education should be the same. There must be provision for varied forms of play activity, for rest, for the formation of physical and social habits and for the development of sensory and perceptual experience.

Playroom and Garden

For the satisfaction of the play impulse we must have an indoor playroom and sufficient garden space for the more active forms of play.

The Indoor Playroom.—This should be large, light and airy and should have direct communication with the open air. Provision for washing and indoor lavatories should be in a small annexe opening out of the playroom and each child should have its own toilet requisites.

Since all children under five should have opportunity for rest and sleep in the afternoon, the convenient storage of the folding beds is an important point. In some nursery rooms a broad shelf has been fitted into a

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recess, under which beds can be stored and concealed by means of curtains, while the shelf above accommodates some of the larger toys which will not fit into the cupboards.

Wherever possible an open-air veranda should be provided which can be used for play or sleep according to the weather.

Furniture and Equipment.—Little children love to spend much of their time in play on the floor; therefore ample floor space is required in the nursery room. Furniture should be light and easy to move: tables that can be fitted under one another and pushed back against the walls, with small chairs in graded heights, are now available and are preferable to the more usual small wooden tables, since these are rather heavy for the children to move and there is a danger that such furniture will remain standing in rows or groups for the greater part of the day, thus reducing the space available for free activity.

Specially designed cupboards with low shelves are also a necessity. These cupboards must be easy of access to the children, since one of the most important functions of the nursery teacher is to train the children in habits of independence and a reasonable love of order and neatness. Mats and rugs that can be rolled up and put away when not in use are also required for floor games.

The Garden.—The garden space should be partly

paved so that outdoor play is possible in all but really wet weather. There should be a sand-pit in one corner of the garden and if possible a paddling pool. There should be a stretch of lawn surrounded by broad paths and flower-beds, in which in addition to trees, and the perennial flowers, there is space for the children to plant seeds or annuals so that growth can be observed. For the four to five-year-old children small garden plots are desirable.

Toys and Apparatus to satisfy Various Forms of Play Activity

Let us consider now what toys and apparatus should be supplied to satisfy the developing interests of the children in the nursery class.

Much of the child's play at this time is of the vigorous bodily active type. It is the form of play most characteristic of children under four years. They often appear to run about without any definite purpose, to jump, to climb and clamber over things whenever opportunity is offered, they push themselves round on any kind of pedal toy, they roll on the ground and kick their legs in the air in sheer abandonment. This play is largely the expression of superabundant energy, although, at the same time, while enjoying the activity, the children are strengthening and developing their muscles.

To Montessori we owe the suggestion for the introduction of simple pieces of gymnastic apparatus to

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satisfy this love of activity. A slide board, a swing, a small flight of stairs for climbing and jumping, can be used in any not over-furnished nursery room, while out of doors a jungle gym should be provided, to enable the children to climb, to scramble over and under bars, to lower themselves by their arms, or to swing from a knotted rope.

A variety of pedal toys must also be available, for young children need to spend time in school with toys of this type, since, beside their bodily value, they tend to develop a child's fearlessness and courage to endure small hardships—opportunities that are often denied him in his home surroundings, owing to the dangers of play in the streets.

To the same period belong many kinds of experimental play and investigating activity. The child at this time handles and moulds sand and clay, dabbles in water whenever the opportunity occurs, fills measures with sand or water, pours the contents of one vessel into another, fits objects into holes, knocks things down, hammers things and pulls things to pieces.

In all this play there is often no specific achievement in mind; it is largely the physical sensory pleasure that he derives from the handling and experimentation that provides the source of satisfaction in this play. At the same time, through this sensory and muscular activity, the child is laying the foundations of knowledge.

We must, therefore, provide suitable toys and material for a child's experiment and investigation. All children pass through the "mud pie" stage. In the classroom we can satisfy this desire with a trough of damp sand and wooden moulding toys, while in the open air there should be a sandpit capable of holding a dozen children at a time.

Observation of children when free from adult domination shows that play with water is a fundamental urge and as such should have legitimate satisfaction. Wherever possible a paddling pool with water jet and sprinkler should be provided in the babies' playground, but in any case a tank or bath of water with floating toys, watering cans and measures should be available in the classroom or corridor. Many cases of emotional difficulty in young children have been found to resolve themselves when the child was free to play with sand or water, unrestricted by the admonitions of grown-up people. Suitable overalls and aprons must, of course, be provided for the children.

As an expression, too, of superabundant energy is the young child's love of making a noise; he loves to hammer and pound, to knock things together.

There are on the market many different toys for the satisfaction of the hammering impulse, such as a board with holes into which coloured pegs can be knocked with a wooden mallet, or a cork mat upon which little strips of wood may be nailed to make the outline of

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objects, but most little boys prefer a "real" hammer and nails like father's. We should, therefore, see that there is a box filled with odd pieces of wood, dowel rods, wooden discs, reels, corks, a few small hammers, a pair of pincers and a box of assorted nails, so that the children can engage in this more solid kind of constructive work when they feel impelled to do so.

Drums, cymbals, triangles and tapping sticks can be used for group activity and help to direct the child's love of making a noise into rhythmic channels.

Building blocks in great variety are also needed at this stage. Some should be large and fairly heavy, so that they can be used for large floor construction, but boxes of smaller bricks to be used on tables, with small toy sets, of people, vehicles, etc., have their place in the child's development towards the end of the period. Useful, too, are the boxes of constructive toys, such as engines, boats, motors, that can be pegged together and taken apart, since these satisfy both the constructive and the destructive impulse in a legitimate way.

The tendency towards dramatic play usually makes its appearance at some time during the nursery stage and continues right through the Infants' School, where opportunity is given for its expression.

The little child living among grown-up people sees many things that are strange and wonderful to him—things that impress him with their importance. Unconsciously he wishes to understand them, and from

this wish arises the tendency to play out the activities that he sees going on around him. For instance, in her doll play a little girl will often rehearse to the minutest detail all her own childish experiences, will try to make her doll eat and drink, will bath her, make her take medicine, scold or punish her, play, in fact, with her doll child, all a mother's occupations. This vivid dramatic play is often a revelation of a child's emotional life. It is most valuable, since, in play, the child projects her own thoughts and feelings on to the doll, and by doing this eases perhaps a period of tension or conflict in her own life.

In the nursery class this love of dramatic play may take the form of dressing-up and playing at all kinds of domestic activities. Part of the equipment of a nursery room should be a property box, containing dresses, aprons, scarves, shawls, hats, etc., in which the children can dress themselves. The desire to assume another personality seems to be particularly strong in some children. A little girl of four from a good home was known to the writer to come into the classroom and go straight to the property box every morning. Having arrayed herself in a much-washed and faded cotton dress reaching to the ground, a purple scarf and a battered-looking hat with a long feather, she became Mrs. Smith and carried out her daily pursuits for a fortnight, in this rôle, answering only to the name of Mrs. Smith.

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For the satisfaction of the desire to "keep house," some form of play-house, large enough for a group of children to play *in*, is needed. Although there are a number of really attractive models of this kind on the market, some simpler home-made construction is often better for this purpose. A play-house can be made with a clothes-horse covered with canvas painted to represent bricks, with interior decorations made by slightly older children in the Infants' School. Furniture—a rough table, two chairs, a dresser and a stove with oven—can easily be made from boxes by boys of six or seven, while the girls can make window curtains and mats, paint pictures, dress dolls, etc.

When the house is furnished it can be further equipped with a broom, dustpan and brush, a saucepan and kettle, a set of tea things for the dresser, a pastry board, rolling-pin, basin and wooden spoon, and last, but not least, a doll's bed.

In addition, we should have small bowls or tubs, a clothes-line, pegs and iron, so that little girls can have a washing day. Extra cooking sets to be used outside the play-house should also be provided for playing at cooking, with a dough made of flour, salt and water, while every now and then we can have a real cooking day, when the teacher helps the children to make cakes and tarts which are cooked in the school oven in preparation for a real tea-party.

We have considered now the natural spontaneous

play activities of young children and the equipment necessary for their satisfaction. What will the children have gained from this play? They will have acquired in an informal way sensory, muscular and perceptual experiences; they will have learned through activity to distinguish the qualities of the objects and material with which they have come into contact; will have acquired notions of size, weight and texture; will have learned that some things are hard, others soft, some smooth and cool, others coarse and rough; that some things will float on water, while others sink to the bottom of the bath. Through play, they will also have begun to lay the foundations of their future work in number: for example, that one brick is large, another small; that one is not quite so long, or just as long as another; that a certain peg just fits a hole, while another one is too big to go into it. They will have learned to count small numbers through play of various kinds; for instance, that if we are to have a tea-party there must be so many cups, saucers, plates and spoons—a set for each guest at the party.

Towards the end of the nursery stage, the teacher should see that the child's experiences of this type are co-ordinated, made clear and more systematic by directing his play towards material and apparatus designed specifically to exercise the senses and lead to finer perceptual discrimination.

For this purpose one cupboard in the classroom

should be stocked with a selection of the Montessori material, or with the attractive sensory games of Decroly, with beads for stringing, with mosaics, peg-boards for making patterns, and various types of jigsaw puzzle. Through the more ordered play involved in the use of these occupations, the children will acquire habits of attention and concentration, since careful observation of small differences is usually required for the successful completion of each little task. While the children are at work with these games, the teacher will see that they learn to associate the sensory experience with language: for example, in naming and describing objects correctly, and in this way help them to fix their percepts of form, colour and number.

Finally, we must provide for the child's love of drawing and painting during the nursery years. At first the child's desire to use pencil, crayon and brush is on the same level as his interest in building or playing with sand. It is not so much that he has an idea to express, but rather that he wants to see what happens when he takes a brush and a pot of paint and proceeds to cover a sheet of paper with it. The astonishing result must often evoke a sense of power; he repeats his experiments, and soon the strange shapes that he produces suggest ideas to him, and his formless drawings become a man, a horse, a window, a house, the name being suggested by some chance likeness. It is sheer

joy in the activity that urges him on in the beginning, but just as his purposeless constructive play merges into dramatic and meaningful play, so too does his drawing and painting become a definite expression of something that interests him in his environment. Children should be left free to draw and paint what they like; the teacher's part is to supply suitable material and tools—plenty of cheap paper, big brushes, charcoal, crayons and prepared paint—and to take a friendly and sympathetic interest in the results.

The Development of Language

So far, we have dealt with the free play activities which need but little direction from the teacher. But in another field, the teacher's work is more definite, that is in the help that she gives the children to acquire power over language. The child of three has often a poor vocabulary, may not speak clearly, may even suffer from a mild speech defect, due to careless training in the home.

By means of suitable picture books, much can be done to extend the children's knowledge and increase their vocabulary by the association of the correct names with the pictures. By the repetition in groups of nursery rhymes, finger plays, counting plays and jingles, clear speech can be developed; by singing to the children and teaching the children to sing, by listening to simple melodies played on the piano or

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gramophone, the children will begin to appreciate musical sounds; by playing in a percussion band the sense of rhythm will be developed.

Informal talks about the common objects and materials with which the children are surrounded also serve to widen their general knowledge and increase vocabulary. The delightful suggestions of Signorina Agazzi¹ for the development of language through sensory games and plays will be found of great service in the nursery stage, and these plays may be continued with the five-year-old children to their great profit.

Finally, the teacher should spend some time each day in telling stories. At first these must be very simple and illustrated perhaps by rapid blackboard sketches; but later on many of the simpler animal folk tales, with their repetitive motive or true stories of animals which portray family relationships, will be much appreciated. Many of these tales lend themselves to dramatisation, and here again the opportunity will arise for developing clear speech.

For definite speech training lessons at this stage there is no need, since the children will learn more by the unconscious imitation of an adult who speaks well than they would by a more or less formal lesson. Nevertheless, in the repetition of rhymes and jingles, the teacher may select those that will be most helpful for the purpose of developing clear speech.

¹ Radice, *Nursery Schools in Italy*, pp. 52-64.

Interest in Nature

Equally important is the teacher's work in directing the child's interest in Nature. We should have small plots of garden where the children may dig, sow seeds, water and watch their plants grow, for, as Montessori says, through gardening the children "are initiated into foresight . . . into the virtue of patience and into confident expectation, which is a form of faith and of philosophy of life." We want, too, garden beds of perennial flowering plants and bulbs, and a few trees, so that the children may enjoy the miracle of unfolding leaf and flower and revel in glorious colour.

If a garden of this type is an impossibility, we must do our best to bring Nature to the classroom—we can reserve one corner for a Nature table, where something of the progress of the seasons may be brought home to the children. We can grow bulbs in pots, plant seeds in boxes, arrange little gardens of soft green moss, studded with violets, primroses or daisies according to the season. We can make collections at harvest-time of the fruits of the earth.

On the walls we can hang pictures, low down so that the children can really see them, of animals and birds, of a beautiful garden, a meadow golden with buttercups, or a bluebell wood in spring.

The keeping of pets should form part of the training of nursery children, but this can only be done if we can

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arrange suitably hygienic and comfortable quarters for the pets; failing this, we can have an aquarium at certain times of the year, and at least have a cat or dog visitor by the day and in this way encourage the children in friendly and gentle treatment of animals.

If the spirit of reverent wonder at the beauty and mystery of Nature can be fostered, much will have been done to lay the foundation of future religious training.

Need for a Daily Programme

A daily programme of activity is advisable, even at the nursery age, since the following of a simple routine is an essential part of the children's education, but it should be clearly realised that the programme must be flexible and should vary according to season, the mood of the children and the opportunity to enjoy any fresh experience that may occur unexpectedly.

SUGGESTED DAILY PROGRAMME FOR A NURSERY CLASS

8.45-9.0 a.m.—Arrival and greeting of teacher and companions, changing shoes, putting on overalls, simple exercises of practical life, care of flowers, etc.

9.20 a.m.—Ring talk, with hymn and prayer followed by news, or Bible story or looking at Bible picture.

9.35 a.m.—Free play activity with large toys, outdoors if possible.

10.15 a.m.—Toilet and mid-morning lunch (milk or orange juice).

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10.30 a.m.—Play indoors or on veranda, with sensory apparatus, puzzles, bricks, dolls, etc.

11.15 a.m.—Quiet time—story, music, looking at pictures or picture books.

11.35 a.m.—Preparation for dinner.

12.0 noon—Dinner.

12.45 p.m.—Toilet and preparation for rest.

1.0 p.m.—Sleep.

2.30 p.m.—Toilet, milk or orange juice.

3.0 p.m.—Play out of doors or walk.

3.30 p.m.—Story, dramatic work, listening to music, or if preferred quiet play with such toys as dolls, doll's house, puzzles, etc. In fine weather this period should be spent out of doors or on veranda.

3.50 p.m.—Clearing up, dressing, good-bye song.

Summary of Achievement

Let us now try to summarise the gain to a child of education in a Nursery School or Nursery Class. From the physical point of view the child will have developed his body by all kinds of active play. Intellectually, through contact in play with a wealth of material, he will have accumulated a store of experiences, while his vocabulary of spoken English will have been enriched through story, poetry, conversation and contact with Nature. His social sense will have developed through play in a group of children of the same age and through the opportunities for social service provided by the exercises of practical life. Through the simple daily routine of the Nursery Class, he will have begun to

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acquire habits of order and willing obedience. Thus equipped, vigorous in body and active in mind, the Nursery School child is well prepared to start upon the next stage of his school.

SUGGESTIONS FOR PRACTICAL WORK AND DISCUSSION CLASSES

(1) Make a study of one child or of a group of children between the ages of three and five, with respect to play activities or interest in story, or Nature, or rhythm.

(2) Make careful notes of your own earliest play experiences as far as you can recall them. Discuss your experiences with other members of your study group.

(3) Observe a new child's reaction when first entering a nursery class—

(a) To the other children.

(b) To the various activities going on in the classroom.

(4) Spend a morning in a Nursery School, nursery class or day nursery, and make a careful record of the activities of *one* child throughout the morning.

(5) Collect examples of the spontaneous drawings of children of nursery age. Make brief notes on the drawings, of age, length of time taken and the child's interpretation of what he has drawn.

(6) Make a collection of counting and finger plays suitable for children of three to five years. Use these at the first opportunity, and note the children's response to them.

(7) Spend a morning in the nursery class, with the purpose of collecting examples of activities in which the foundations of number were being laid.

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CHAPTER III

THE CURRICULUM AND PROGRAMME OF ACTIVITIES FOR CHILDREN FROM FIVE TO SIX YEARS

BEFORE we can plan a suitable curriculum for the children from five to six years, we must consider first the characteristics of a child of this age.

We shall expect to find the children becoming more really social at this stage. In the nursery class, although children like to play in the company of others, their play is largely individual; even when a group is temporarily formed, each child remains strongly individualistic, groups break up easily and little quarrels arise frequently, but from five years onwards children join together in small groups for the pursuit of some idea. At this stage, too, they begin to compare themselves with others in respect of muscular achievement and other forms of skill.

In common with the children of Nursery School age, play is still the dominating impulse in their lives, but it now begins to take on a more purposive character and is directed more to the achievement of some end. The children's wider experience, either in the home or in the nursery class, results in a developing curiosity and

ACTIVITIES FOR CHILDREN

interest in the things with which they are surrounded; curiosity becomes, in fact, more intellectual in Nature, as is evidenced by the questions they ask.

Our programme, then, should be planned to satisfy these needs, but there is a prevailing notion that the day of the school child from five years onwards should be occupied, at least in part, with instruction in the elements of reading, number and writing.

In the *Infants' and Nursery School Report* we read that there should be no systematic teaching of reading, writing or number before the child has attained a mental age of six years, although exceptional children may be allowed to learn to read at an earlier age if they wish to do so. This is the consensus of opinion of well-informed and reliable witnesses.

It would seem, then, that the main concern of the teacher of this age group should be to provide opportunity for the extension of the play activities of the earlier period, while, at the same time, she directs the children's interests, so that by the age of six they are well prepared to begin the systematic learning of the "tool" subjects—subjects upon which their future success in school work may be said to depend.

The arrangement of the daily programme will be influenced by two factors:—

(1) Whether the children have already spent some time in the nursery class or have come straight from home.

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(2) Whether we have one or two classes for the age range five to six. In large schools there will probably be two classes, one for children from five to five and a half years, and one for the children from five and a half to six years, while in smaller schools children of the whole age range may be found in one class.

If we have a class of five-year-old entrants, the programme of activities should approximate very closely to that of the nursery class for some time. Although many of the children may come from comfortable homes and have had plenty of toys and picture books, yet few of them will have had the opportunity for play with children of the same age, thus learning to co-operate with others, share toys or take turns with gymnastic apparatus. Again, their activity has often been restricted by space; the small house, the little flat without a garden usually means that a child has no play place of his own, he must often play very "tidy" kinds of games, he can never work uninterruptedly with some absorbing type of construction. His toys may have been too elaborate, and elaborate toys do not lend themselves to the play of constructive imagination and fantasy. These children need the opportunity for free muscular activity with gymnastic apparatus and toys of the runabout type, to develop fearlessness and a spirit of adventure; they need floor building, play with sand and water, work with wood, hammer and nails. As they are older than the nursery children, they will

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pass more rapidly through these experiences, so that at the end of three months, shall we say, they will be at the same stage of development as a child who has spent two years in a nursery class.

When we have two classes for the five to six years old stage, the work in the second class may be planned perhaps more definitely towards the acquisition of experience in number and reading, which will help to make the transition to systematic work easier.

We will, however, assume that our class consists of forty children between the ages of five and six years. (See Plate I.)

Division of Time

The day for the children should be divided between:—

(1) Exercise of practical life, designed to develop a sense of responsibility and willing co-operation.

(2) Free active play for physical development, including simple physical training lessons.

(3) Dramatic and constructive play and occupation with varied materials, for the purpose of muscular, sensory and intellectual development.

(4) Story-telling (including Bible stories), observation of Nature and Nature lore, dramatisation, discussion arising from looking at pictures and objects, leading to extension of common knowledge and the acquisition of a wider vocabulary.

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(5) Rhythmic work and singing.

(6) An approach to reading and number, arising out of play activities and centres of interest.

Suggestions for the Daily Programme

After assembly and Prayers, a period of fifteen minutes should be given to exercises of practical life, when the children move freely about the room to perform little tasks, such as dusting, polishing, arranging flowers, watering the garden or flower boxes, looking after pets.

During this time there will be a good deal of exchange of ideas, conversation about things in the room, or about events that have happened at home. The teacher will move about the room talking to the children and encouraging them to talk freely to her, thus giving, incidentally, opportunity for the development of vocabulary and correction of faulty speech.

Five or ten minutes will then be given to the Nature calendar and daily news. (See details under section dealing with beginning of reading and writing.)

Then might come a long period of about three-quarters of an hour for free self-chosen activity, followed by a break for lunch, active play with toys in the open air, or, alternatively, a short physical training lesson.

The children will then be ready for some form of collective or group occupation, and the morning will end with a Scripture lesson.

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The first hour of the afternoon should be divided between various forms of activity, such as play with toys, or painting, or varied types of quiet occupation, the last part of the afternoon should be given in alternation to story, dramatisation, poetry, singing and rhythmic movement. In summer, out-of-door games, with or without playthings, could be taken once or twice a week as an alternative to the indoor period.

Furniture and Equipment

It is obvious that where free choice of activity is to be given the room must be arranged so that this can be carried on with ease. Where the floor is unstepped, desks or tables can be arranged in groups, with perhaps one row along the wall, when they can often be utilised as a basis for different forms of construction, such as a row of shops. In a stepped room, the desks might be arranged in groups on the flat floor, leaving the steps free for all kinds of games and occupations.

A small work-bench or rough table should be placed in one corner of the room, with a rack to hold tools, such as hammers, a saw, pincers, bradawl and boxes of nails; and several boxes to hold odd lengths of wood, pieces of cardboard, oddments, such as reels and wooden and cardboard discs for use in toy-making.

Another corner of the room might be the library corner. Here we can have an open square of desks or tables, with a home-made bookcase in the centre, for

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picture books, puzzles, mosaics and pattern-making material. In this corner, too, the children would gather at story-time.

The Nature table, Nature calendar and news board would occupy the third corner of the room.

Along one wall we must have low cupboards fitted with shelves to take toys and "occupations," and a cupboard to hold the children's individual boxes (unless these are fitted as drawers in the tables), a broad shelf to hold trays with bottles of ready-mixed paint, jars of brushes, pots of paste and paste brushes, stands of coloured pencils, boxes of crayons, a stand with the scissors and boxes containing paper for writing, painting and drawing.

Recesses in the room can be utilised in various ways, for instance, to hold an improvised washstand, or store the big brick box or the easels for the children's art work, or perhaps as a background for some piece of constructive or built-up work.

SUGGESTIONS FOR THE DEVELOPMENT OF THE DAILY PROGRAMME

Free Activity

A little time must be taken to introduce the children to the equipment of their new classroom: for instance, they must be shown where materials and tools are to be kept; very simple rules for work should be given,

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since the children need to be trained in reasonable habits of order if the work is to be successful. Rules should be few, and we must not expect perfection in keeping them, since five-year-old children are still very impulsive, and clearing up after oneself is not a natural desire in anyone, but is always the result of enlightened training. The children should be taught to use the dustpan and hand-brush to clear up litter on the floor, to spread newspaper on floor or table when they are using paint, paste and glue, and last, but not least, to wash their hands before using picture books, puzzles and similar types of occupation.

New entrants to the school will probably take some time to settle down to the idea of self-chosen activity and may, at first, need suggestions from the teacher as to what they shall do. The nursery-class children will set to work eagerly, and their activity will generally act as a potent source of suggestion to the others.

A group of boys, for instance, will soon be engaged in the woodwork corner in making a cart with wheels, an engine or an aeroplane. (See Fig. 1.)

Another group of boys will begin to build on the floor with blocks, for up to six years of age building with bricks remains a favourite occupation with boys.

Some children will choose to paint, others perhaps of a more solitary type will select jigsaw puzzles or work with mosaics.

Both girls and boys are often attracted by sewing at

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this age, and boxes of bright scraps of material, coloured wools and cottons, may suggest the making of clothes for a family of cardboard or wooden dolls. When such a family has been dressed, the idea of making a home may emerge, either as the result of the children's spontaneous play or from the teacher's suggestion that the doll family must have a home to live in.

The Development of a Centre of Interest connected with Building a Home

Homes can be built up in a variety of ways. Some children may show a tendency to continue the imaginative play at household activities of the earlier stage, and from this may arise the idea of constructing houses of wood and cardboard large enough for the children to play in. Sometimes the classroom may be transformed into a row of houses; in the making of which practically the whole class may take a part. A class of five-year-old children known to the writer built a home with four rooms from building blocks. The walls of this home were composed of a single row of bricks (9 ins. by $4\frac{1}{2}$ ins. by $2\frac{1}{4}$ ins.) laid on their long narrow edges, with spaces for the front and back doors. The partition walls were of bricks of a less solid type. Furniture was at first built with smaller bricks, recls, flat pieces of wood, small boxes, etc. A table, for instance, was made by resting the lid of a cigar-box on four bricks; a chair, from a reel with a back of corrugated cardboard held in position

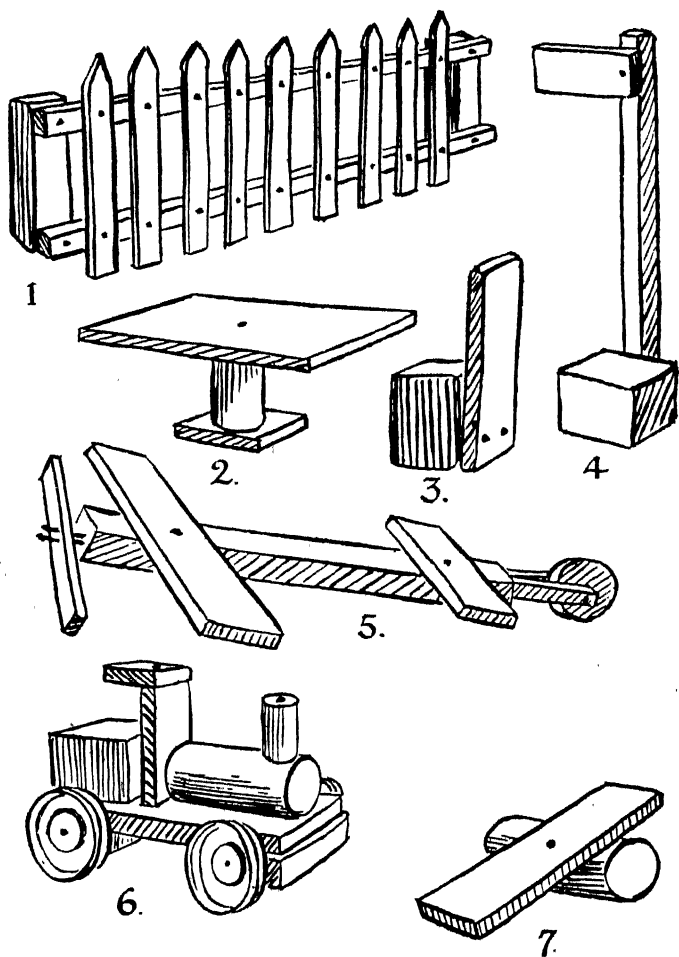


FIG. I.

- | | |
|--|--|
| 1. FENCE MADE BY GIRL OF $5\frac{1}{4}$ YRS. FROM STRIP WOOD AND PLANT LABELS. | 3. CHAIR (girl of $5\frac{1}{4}$ yrs.). |
| 2. TABLE (girl of $5\frac{1}{4}$ yrs.). | 5. AEROPLANE (boy of $5\frac{1}{4}$ yrs.). |
| 4. SIGNAL (girl of 5 yrs.). | 7. SEESAW (girl of 5 yrs.). |
| 6. ENGINE (boy of $5\frac{1}{4}$ yrs.). | |

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with a rubber band. With this crude built-up furniture the children played happily for some days, then they asked if they could not make *real* furniture for the home. This suggestion was welcomed by the teacher, and the children soon made some of their temporary structures permanent with the help of glue, nails and enamel paint, while better ways of constructing other objects were also devised. Finally, the four rooms were furnished, and dramatic play centring round home life followed.

The mother's work was faithfully performed, small brooms and dusters being made for the doll mother; a home-made pastry board and rolling-pin came as a gift from one of the fathers who had heard of the new home. The children, too, brought all kinds of little accessories for the house.

A garden was laid out on a shallow tray, with lawn, garden paths, a fence made from plant sticks, a garden roller, swing and seesaw. Clothes-posts were set up, and soon lines of gaily coloured clothes, cut from paper and material, hung in the garden.

The domestic activities carried on in the home naturally led to shopping interests. With the help of millboards and bricks the children made a row of shops, a greengrocer's, butcher's, baker's and grocer's. They stocked these with goods fashioned from dough and clay, and when father had gone to work, mother and the children went on shopping expeditions.

The children's absorbed interest in this play-house

led to the invention of a serial story about the "Brown" family and their daily life. Once or twice a week the teacher told a part of this continuous tale, a story which mirrored not only the daily life in the home, but also its special events, such as a birthday, with the arrival of the postman and a birthday party; getting ready for Christmas; a visit to the zoo or circus; a holiday in the country or at the seaside. In this way fresh suggestions for activity in connection with the home developed, for example, in laying out a farm or a zoo with toy animals, bricks and other material.

The little tales provided, too, the motive for the beginnings of reading. Pictures of mother, father and the children were drawn by the teacher, with a sentence below each picture, *e.g.* "This is Mother," "Here are Tom and Mary." Each child had his own individual picture reading-book about the Brown family, with the same pictures and sentences, hectographed by the teacher and coloured by the children. On other pages the children drew and coloured, or cut from catalogues, pictures of furniture, such as tables, chairs, dressers, beds, fireplaces, and learned to write their names, using a thick, soft, black lead pencil for this purpose. Collective scrap-books were also made to illustrate "What Mother does," "What Father does," "What the Children do."

Games were then played in which all the objects in the home and the shops were labelled. In this way the

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children learned gradually to recognise by sight a vocabulary of words, phrases and sentences related to their "Home Centre of Interest."

Repetition of the Idea in a more Advanced Manner

Finally, the doll family decided to move into a *real* house. On a low table two wooden boxes were placed side by side, with two more on top of these to make a four-roomed house. The children painted and decorated this home. Furniture was made and arranged in a furniture shop, which the doll family visited to choose the furniture for their new home. When all was ready, the family moved in, their goods being conveyed in a pantechnicon improvised from a cart—a box on wheels made previously by one of the boys.

The reading interest was continued, for each child now had his own home-made *reading* book, prepared by the teacher from the children's suggestions. (For the substance of these home-made reading books, see *Path to Reading*, Books I and II. Collins.)

Interest in Number

Interest in number was also developed through this play with the home. Experiences in measurement arose in connection with the attempt to make good furniture, to make objects roughly in proportion to one another;

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from the shopping play the children learned to recognise money, to write price tickets, learned how goods were sold, individually or by the dozen or bunch, by the pound, half-pound and quarter-pound, or by the pint and half-pint.

All this pretence play with the shops was supplemented by real experience in weighing with scales and measuring with the pint and half-pint measures. The children examined real and cardboard money, and through various occupations learned to lay out prices, add small sums of money and give change.

.

Arrangement of the Afternoon Activities

Occupations such as simple sewing, knitting and weaving, clay-modelling, painting, drawing and paper-cutting may be taken during the first hour in the afternoon. The general plan of work should be a combination of group and individual activity. No fixed plan or sequence of lessons should be arranged; we should leave the children as free as possible to make what they like, to paint or draw when they choose.

The teacher must, of course, be quick to see when the children for some reason have reached a plateau and are making little progress in ideas. She must be ready with stimulating suggestions; for instance, she may show a collection of objects that have been made by

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other children, such as a bag woven in felt or coloured wool, a doll's knitted coat and hat, a wall frieze made in paper-cutting or simple sewing, and suggest that perhaps some children might like to make things like these.

The teacher may gather a group of six or eight children and show them how to start a new piece of work, while the remainder of the class will be free to select some other form of occupation, including play with jigsaw puzzles or pattern-laying material. It is usually wise to arrange also for a few children to be occupied with painting, as in this way the number of easels, brushes and other equipment required for this work is reduced.

On occasion, the whole class will work together to carry out some idea, such as Christmas decorations, making Christmas presents, making properties for a Christmas or Spring festival.

Art Work

Free illustration on large sheets of kitchen or sugar paper, with charcoal, tempera colour and big brushes, is the best type of work for children in the Infants' School. At this stage, children draw wholly from memory; the human figure, houses, boats, omnibuses are among the favourite subjects chosen for representation. Frequently, a centre of interest, such as the home, is a great stimulus to art work—subjects

such as mother's or father's work in the home or garden, a day's outing for the whole family, appear constantly among children's drawings. (See Plates III and VI, also Figs. 7 and 8.)

A good deal of free drawing and colouring on a smaller scale can be done in connection with the centre of interest, and if some of these pictures are preserved in a co-operative scrap-book, a picture record of the development of the interest is made. When these picture books are completed, they form an interesting addition to the classroom library, for the children seem never to tire of poring over them.

Story, Poetry and Dramatic Work

The desire to hear a story is a deep-seated interest in mankind; story-telling and the attempt to express emotion in drawing are the earliest signs of intellectual development and æsthetic interest in primitive people. Although we do not now hold strictly to the recapitulatory theory of development, yet there is no doubt that at certain stages the interests of children run parallel to those of the race. We have referred already to the child's desire to express thought and feeling in art; no less strong is his interest in hearing a good tale. In a later chapter we propose to deal in some detail with the art of story-telling and poetry-reading and with the dramatisation of stories.¹

¹ Chapter VII.

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The Approach to Reading and Number

Many of the children's activities during this year offer opportunities for developing interest in reading and number. They arise in an incidental manner through constructive work, such as cutting pieces of wood the same length for a table or fence (see Fig. 1); through centres of interest, such as modelling so many apples, pears or cauliflowers; buying and selling goods and learning to give change. Suggestions for acquiring a vocabulary of printed words and phrases in connection with centres of interest have already been described.

Other occasions can also be used by the teacher for extending this knowledge.

The Nature Calendar

It is the custom to keep some kind of picture weather record in most classrooms, but this is rarely used to stimulate interest in reading or number, since many teachers still think of the curriculum of the Infants' School in terms of isolated subjects, not as a series of related experiences. The result is that the three "R's" are dealt with in a period of individual work, but never at any other time; weather is observed and recorded on a chart, but that, too, is kept as an entirely separate interest; handwork offers endless opportunities for gaining notions of form and number, such as dividing lengths into halves and quarters, drawing circles,

January



January brings the snow.
Makes our feet and fingers glow.

Thursday

19

Snow is falling today



Joan is wearing
her winter coat.

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making clock faces, but the children's attention is not always directed to this aspect of the work at the time: later, with due solemnity, a lesson on fractions, or on drawing a circle or square, may be dealt with in the arithmetic or geometry period, in the Junior School.

A Nature Calendar of the perpetual type can be a definite aid to the acquisition of a reading vocabulary connected with Nature. A piece of plywood or Essex board (approximately 30 ins. by 22 ins.) can be covered with dark-green baize, and small cuphooks inserted at different points to take labels bearing the name of the month, day and date, a picture typical of the month, a short descriptive verse and a sentence describing the weather. We can also have a small cardboard doll attached to the calendar, with paper clothes, such as a macintosh for wet days, a winter coat for cold days, which can easily be slipped on and off. A pocket at the bottom of the calendar can hold the collection of sentences, cards, etc.

Every morning the name of the month is read, the name of the day and the date hung up, and after a brief discussion, a short sentence describing the weather. At the beginning of the month when the teacher presents the new picture, she will also read to the children the little verse card, and if this is re-read occasionally it will become familiar by the end of the month. (See Plate II.)

Practice on the Vocabulary

Towards the end of the year the teacher should try to ensure that the names and sentences are really known so that they can be recognised at sight. This usually needs practice by games and little drills.

(1) A collection of the names of the days and months can be mixed up and shown as "flash" cards, *i.e.* shown for a second or two and then turned down. The children see who can be first to say the name.

(2) The names can be spread out on a table or hung in any order on the blackboard. A child runs out and points to a name and says it, then chooses another word for the next child to say.

(3) The same method can be used with the sentences describing the weather, *e.g.* a child is called to find the sentence that says "It is a sunny day," or the teacher holds up a sentence and the children quickly make a sketch to show its meaning.

(4) The teacher can hold up a sentence, and say, "Read this to yourselves and then tell me what Joan (the paper doll) must wear to-day." (Many little games will occur to teachers when using the calendar in this way, but we must always keep the lessons lively and full of fun, if the children are to enjoy the work and so put out their best effort.)

(5) When the children are really familiar with a set of sentences, an attempt at analysis can be made by discovering words that are the same in two or more sentences, *e.g.* "To-day it is windy," "It is raining to-day." A child is asked to read the two sentences, then to point to the word

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that says "to-day" in the first sentence, then to find it again in the second.

Children who are ready for this work will quickly seize upon the idea and will spend time in looking for words that are the same in other sentences. We must be very careful, however, not to push this type of exercise beyond the capacity and interest of the children, for if we try to force the pace, we may set up a distaste for reading which will hinder progress in the next stage.

(6) Towards the end of the year the children can keep individual daily records. They will first draw an appropriate picture to represent the weather, *e.g.* a snowy day, and then copy the printed strip "To-day it is snowing" with a thick black lead pencil. For the development of number ideas, the teacher can provide each child with a blank calendar for the month. The children will print the name of the month at the top and fill in the date each day. All kinds of little calculations can be given, *e.g.* How many more days to Sunday? How many days of the month have gone? How many days in two weeks? etc.

The Nature Table

Most teachers keep a Nature table, with collections of flowers, twigs, nuts, bulbs, seeds, etc., in season. For these, too, labels and sentences can be prepared, *e.g.* "Pink lupin," "Yellow sunflowers," "Here are daisies with yellow eyes," "John brought these marigolds to-day."

In their Nature diaries the children can make drawings of new objects as they appear on the table, and

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write, from the printed label or the teacher's blackboard copy, the appropriate sentence.

Daily News

The keeping of a daily news record is a valuable means of developing a habit of observation, memory and power of description in children. It should be used throughout the Infants' and Junior Schools. For the five to six year old children we may also use it to stimulate interest in reading. The children gather round the teacher each morning and discuss interesting things that have happened since yesterday. Perhaps Joan has a new dress or pair of shoes of which she is very proud, or Alan may have a new baby sister, or Olive saw a mouse when she was in bed, or Bill saw a fire-engine on the way to school. After five or ten minutes' talk, the children choose what they think is the most interesting news for the daily record.

In the free activity time, the child whose news item has been selected draws or paints an appropriate picture on a large piece of paper, while the teacher, during the same period, finds time to print the sentence to accompany the illustration. Even this act can be used as an opportunity for teaching, for a group of children will usually gather round the teacher's table while she uses the signwriter or the cardboard templates of letters to make the sentence. Soon—if they do not already know—the children learn to recognise the letters

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and can then help to build up the sentence, *e.g.* the teacher will say, "I shall want 'J,' 'o,' 'h,' 'n,' for John's name," and so forth. Alternatively, if she prefers to write the sentence in charcoal, or with a broad nib, she will say the names of the letters as she writes.

The printed sentence and the picture are then hung side by side for the rest of the day. News can be kept in one file for the week or month, or in separate files for each day.

Each Friday the news for the week should be read through, at first with picture and sentence associated, then a picture can be shown and the children asked to find the sentence to go with it, or *vice versa*. As the children gain skill in the ready recognition of the sentences, the teacher can use some of the devices already mentioned to assist the class to analyse the sentences into words. (See Fig. 2.)

Action Words and Interpretation of Written Commands

All kinds of little games, involving the interpretation of printed commands in connection with the activities of the classroom, can also be played. When the children are gathered in a circle, the teacher can show a printed card, *e.g.* "run," and say, "This tells you to do something." She then calls a child and whispers the word "run," and when the child has carried out the order, asks the class, "What did he do?" The children answer.

John went to
his Granny's house
last night

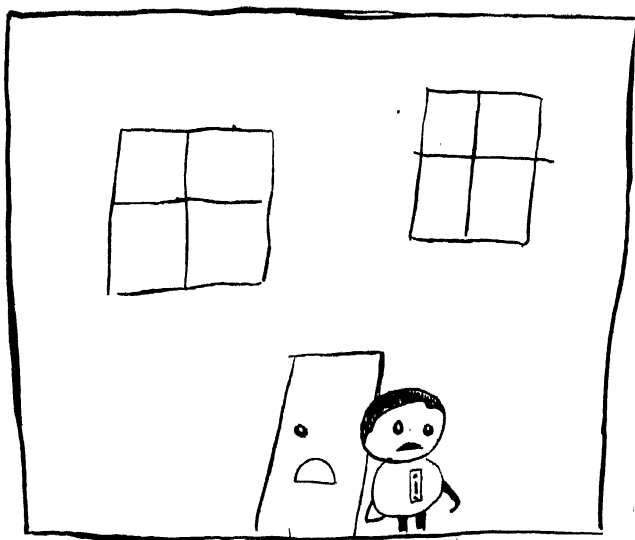


FIG. 2.—PICTURE DRAWN BY A BOY OF 5 YEARS 4 MONTHS.

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"He ran." She then says, "This card tells him to run." Other action words, such as "jump," "skip," "hop," "walk," "crawl," etc., can be taught in the same way, and the children are soon able to play this activity game very well.

As has been suggested in earlier pages, a vocabulary of names connected with the home, the shops and the Nature table have already been acquired. These can now be combined with command words, such as "bring," "touch," "find," "put," into command sentences, e.g. "Bring a daisy," "Find a book," "Put an acorn on the table," etc. This method of introducing a child to reading through the interests and activities of the classroom has been well described by Hamaide¹ and deserves careful study.

Number Games

In addition to the experiences in weighing, measuring and shopping to which reference has already been made, much use can be made of games to develop skill in counting, or for the association of number group and figure, or for practice in simple addition and subtraction.

Games of the "Fishpond" type give practice in the recognition of figures, in laying out the score in beans or sticks, and in adding the score after several turns. Home-made floor or table quoits serve the same pur-

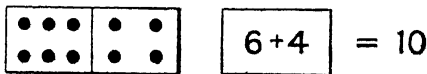
¹ Hamaide, *The Decroly Class* (Dent), chap. vi.

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pose. Games involving the throwing of bean bags or balls through numbered holes is much enjoyed by children of this age. Between five and a half and six years some children enjoy playing race games, although this interest reaches its height later.

Dominoes

Games with dominoes can be the means of acquiring skill with numbers up to twelve, or even further if the children are ready for it. After some preliminary free play with the dominoes, such as building walls or pens, laying patterns, matching pips end to end, the children can be shown how to work in a more definite manner:¹ *e.g.* the whole twenty-eight dominoes can be arranged in descending or ascending sequence, *i.e.* six-six to six-blank, five-five to five-blank, and so forth. When this can be done quickly and accurately, cards of the same size as the dominoes can be prepared with figures instead of pips and used to match with the dominoes. Finally, an occupation involving the addition of the pips on a domino can be given by providing answer cards, *e.g.*—


$$\begin{array}{|c|c|} \hline \bullet \bullet \bullet & \bullet \bullet \\ \hline \bullet \bullet \bullet & \bullet \bullet \\ \hline \end{array} \quad \boxed{6 + 4} = 10$$

When the children have had a good deal of individual practice with dominoes, group games of

¹ See Findlay, *Educative Toys*.

the lotto and snap type can be devised to give skill in quick recognition.

Playing-cards

These are also an excellent means of giving children skill in the recognition of number groups. Group games can be played by children of five and a half to six years: for instance, "card" dominoes, which develops the idea of sequence; while a sort of variant of "Old Maid," making 10's or 12's, in which two cards are paired which add up to 10 or 12, teaches the composition of these numbers. Miss Drummond¹ has some excellent suggestions for the use of playing-cards as an introduction to number.

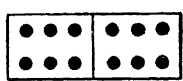
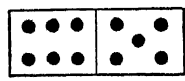
Through all these plays, the children will become reasonably familiar with the composition of numbers up to 20; they will learn through play that $6+6$ are 12, $10+2$ are 12, $7+5$ are 12, and so on, although they will not have written them in sum form.

It would probably be better to leave all written work until the next stage; but, providing that the children have had all the real experience in weighing and measuring, in playing at shops, and with the games just described throughout the nursery class and the earlier part of the five to six year old stage, the last month of the year might be spent in showing the children how to record in equation form the facts with which they

¹ Drummond, *Psychology and Teaching of Number*, chap. vi.

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are already familiar. Learning to write the equation form rises directly from dominoes, *e.g.*—

 $=$ 12 ,  $=$ 11

When the children have once grasped the idea from the dominoes, groups of sticks, bead bars, etc., can be used as alternative material for making these little sums, since we do not want the children to become fixed in their ideas about number groups.

Just as games and little drills are usually necessary to ensure that words and sentences can be recognised at sight, so some form of visual and oral practice work should be given in the quick recognition of number groups and number combinations. We might do this by using large domino cards (9 ins. by $4\frac{1}{2}$ ins., spots made with a $\frac{1}{2}$ -in. rubber cork) as “flash” cards. A card is shown for a few seconds, turned down, and then questions such as these asked: “What number did you see at the top?” “What number did you see at the bottom?” “Which is the bigger number?” “How many spots altogether?” etc.

Summary of Achievement

Let us now try to summarise the children's achievement after a year of this type of play activity:—

- (1) Through various forms of physical activity, the

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children will have gained increased control of bodily movement. Through the exercises of practical life, they will have learned to move easily, to fetch and carry, to put things away without clumsiness.

(2) From being more or less solitary in their play, they will have become more social, will have learned to share toys, to take their part in the little duties and responsibilities of the classroom, to enter into groups for social and dramatic play.

(3) Through the varied play activities they will have gained immensely in intellectual knowledge; for instance, through all kinds of experiment with bricks, sand, clay, fabric, etc., they will have gained first-hand knowledge of the nature of each material and of the way in which it can be manipulated.

(4) Through looking at pictures, through story-telling, poetry, dramatisation and singing, the children's spoken vocabulary will have been enriched and speech made more accurate.

(5) Through the simple project activities, scope will have been provided for the expression of the dramatic imitative impulse, while at the same time vocabulary will have been widened and speech made more fluent by observation and the exchange of ideas between teacher and children. Through the necessity for printed names, labels and phrases in connection with their interests, many of the children will have acquired quite a good vocabulary of printed words and phrases.

(6) Through various types of practical activity and games, the foundations of number will have been laid. With minds thus enriched and satisfied by skilfully directed play, the

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children will be well equipped to start on the final stage of their Infants' School course.

SUGGESTIONS FOR PRACTICAL WORK AND DISCUSSION

(1) Keep a careful record, over a period of a fortnight or three weeks, of the self-directed activities of *two* children working in a class whose time-table is planned on "free activity" lines.

(2) Prepare and tell several stories of the types suggested in Chapter VII. Try to estimate the response of the class to the different stories.

(3) Do the same with poetry.

(4) Invent several number games—variations of the types suggested in the preceding chapter—and use these with a group of children as opportunity occurs. Make notes as to their suitability.

(5) After some practical experience, make notes of the difficulties that are often encountered in carrying out a "free activity" programme, e.g. "difficult" children who upset the harmony of the classroom; too much noise and restlessness in general; difficulty in obtaining materials; apparent lack of progress to a higher mental level in individual children. In your study groups, discuss ways of dealing with these difficulties.

READING

Infants' and Nursery School Report, chap. vi, pp. 121-137.

Catty, N. Ed.

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Kenwick, E. E.

Number in the Infants' and Nursery School, chap. iii.

Hamaide, A., trans. Hunt.

The Decroly Class, chap. iii, pp. 33-37, and chap. vi.

Hume, E. G.

The Happy Way to Reading, Introductory Reader. Blackie.

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Wheeler, E. C.

My Picture Book of Number. Evans Bros.

CHAPTER IV

THE TRANSITION AGE: ITS CURRICULUM AND TIME-TABLE

THE age from six to seven and a half is sometimes called the transition age. It is the period between infancy and childhood when we may expect the child to show some of the characteristics of both stages. Much of the child's day will still be given to play of varied types, but during this time we can usually observe a gradual change from the "play" to the "work" attitude of mind—an attitude characteristic of the Junior School child.

If we watch a class of six to seven years old children, we often see them working with obvious interest and pleasure at little tasks of an apparently monotonous type; for instance, busily engaged with little "sum" cards, or reading and re-reading the pages of a book in a sing-song voice.

This tendency to find pleasure in repetitive tasks or routine activities is described by Professor Nunn as the "routine" tendency. It is the routine tendency that accounts for a child's enthusiasm for mechanical tasks, such as chanting tables or spellings, that leads him, at

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this stage, to prefer to do things in a certain way and at a definite time. It accounts for his love of traditional and seasonal games and play, and for his pleasure in simple rites and festivals, whether in school or church.

Self-chosen routine work gives satisfaction because it develops a feeling of confidence and power, while, at the same time, it gives steadiness of purpose to a child's activities and is, therefore, important for the development of character.

Characteristic, too, of this period is the rapid development of the creative impulse along constructive lines. This impulse towards creative work is behind all great advances in knowledge and invention, and is of the highest importance for progress. The teacher should see in every child a "potential creator," and plan a curriculum that will allow opportunity for the expression of the impulse.

We have, then, a guiding principle in planning the work for this stage; we must give opportunity:—

(1) For the expression of the creative impulse, through varied types of constructive work, painting, drawing, music and dramatic play.

(2) For the satisfaction of the routine tendency, through traditional games, simple festivals and a limited amount of routine practice work in the "Three R's."

Our curriculum must still be thought of in terms of activity; as the pursuit of interests, not as a number of



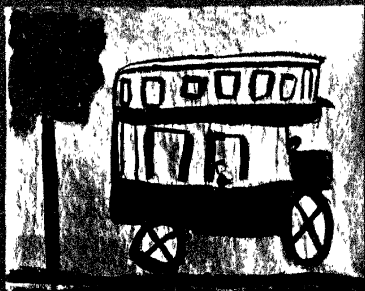
Bob and Betty playing ball



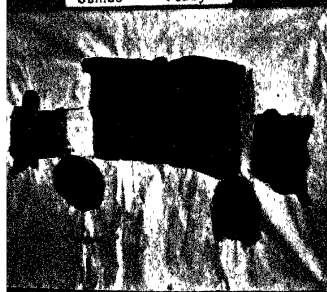
Betty by her house



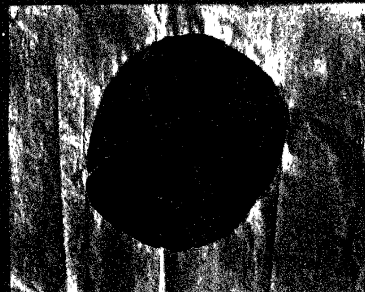
Jumbo Teddy



Bob in a bus



Bob's engine



a very big ball

PLATE III

Free illustrations by children of 5 years in connection with a "Home" centre of interest.

THE TRANSITION CLASS

isolated subjects to be taught at stated times. The time-table will give expression to this principle by allowing reasonably large units of time for different activities, and will be divided between the following interests:—

(1) Projects or centres of interest, largely of a constructive nature.

(2) Free chosen activities, such as painting, drawing, varied forms of handwork and dramatic play.

(3) Nature, story, poetry, speech training, music and rhythm.

(4) Practice in the elements of reading, writing and number.

(5) Religious instruction.

It is obvious that if the time-table is to be planned in large units of time, we cannot include all these activities in a weekly programme. We shall find it more valuable for the children's development to concentrate (according to the lead given by the children) upon some aspect of our suggested programme, to spend a good deal of time on this while interest is keen, and then, in turn, to pursue the other activities in the same intensive manner.

It is probably wise to set aside a definite time, *e.g.* an hour each day, for individual or group work in the "Three R's"; physical training, especially in a large school and during the winter months, may need a specified time on the time-table; religious instruction must be given at the beginning or end of the session.

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Apart from these times, the teacher should regard the time-table as a guide rather than as a fetish to be slavishly obeyed, and should feel free to follow the interests of the children, even if it means ignoring the time-table, for if she has the insight to direct the work successfully, the so-called "subjects" of a Grade III or Standard I time-table will be bound to receive attention as "interests" at some time during the year.

For instance, history or geography as subjects have no place in an Infants' School programme, but, arising from the development of a centre of interest, much information of a geographical or historical nature will often be acquired. This idea will be developed further in the chapter on "Project Activity," but one illustration may be given at this point. Some time between six and seven years a centre of interest connected with shelter may occupy the children's attention. This will possibly lead to the consideration of the "homes" of people in other lands, or to a study of "homes" of people of long ago, in our country or in other lands. In this way the simple geography or history of the conventional Standard I syllabus will be covered. (See Fig. 16.)

Records

Most teachers seem to feel that there must be some *measure* of a child's progress. In earlier days it was the custom to subject children, even as young as four years, to some kind of examination at the end of a term.

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Fortunately, we are moving away from this point of view, and there are few schools in which individual examinations are given before the age of six.

We should not attempt to measure a child's growth and development by tangible specific results, whether in the "Three R's" or in finely executed pieces of handwork, but rather by the difficulties he chooses willingly to surmount, by the thought and effort that he puts into all that he does.

A record of this progress is valuable, not only for the class teacher or head mistress, but for those who will teach the child in the next stage of his school life.

Various kinds of records have been devised, the commonest type being one which records only the progress in the "Three R's." This form of record is probably useful to a teacher working with a large class on individual lines, as it enables her, in a leisure moment, to look over the record and see which child may need special help and attention.

But the enthusiastic teacher is generally so closely in touch with each child in the class that she knows exactly how much progress it is making. The real value, then, of such a record is either for the teacher who receives the class, or in the case of absence of a teacher, for the stranger who is called in temporarily to take her place.

The records used either in the Decroly School or in the Maison des Petits, Geneva, are of a more valuable

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type, since they seek to record the growth of the child's whole personality.

In the *Maison des Petits*, the record is divided under two headings:—

(1) Growth in character, as shown by development in habits of attention, obedience and sense of responsibility; and

(2) Power of "work," both intellectual and manual, including the acquisition of the elements of reading, writing and number.

Finally, when the time approaches for a child to leave the Infants' School, we can make use of some of the standardised tests of intelligence and achievement to help us to estimate his native ability and present stage of performance in reading and number.

SUGGESTIONS FOR READING

- | | |
|----------------|--|
| Nunn, Sir P. | <i>Education: Its Data and First Principles</i> , chaps. vi and vii. |
| Buhler, Ch. | <i>Birth to Maturity</i> , chap. vii. |
| Hamaide, A. | <i>The Decroly Class</i> , Appendix A, p. 275. |
| Burt, C. | <i>Mental and Scholastic Tests</i> , pp. 24-68, 344 ; 356. |
| Ballard, P. B. | <i>Mental Tests</i> . |

SUGGESTIONS FOR INDEPENDENT WORK

(1) During a period of school practice work make careful observations of the "work" impulse of one or two children. Try to estimate the amount of time spent respectively on "routine" and "creative" tasks. Obtain the teacher's estimate of the child's ability and general development in personality as a check upon your own shorter period of observation.

(2) Plan a time-table for a month for a class of forty children, either

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from six to six and a half years, or seven to seven and a half years, to give adequate opportunity for the expression of their interests.

(3) Prepare a simple record, on the lines suggested in the preceding chapter, that you might find helpful for recording the progress of children in any class which you will teach for a definite length of time.

CHAPTER V

SUGGESTIONS FOR ACTIVITIES FOR CHILDREN FROM SIX TO SEVEN AND A HALF YEARS

The Use of Centres of Interest

IN an earlier chapter¹ we described the way in which a simple centre of interest connected with the home might arise from the free play activity of a group of five year old children. At that stage of school life "projects" are usually short-lived and are entirely of a play nature; construction is crude and more or less *symbolic* of the real thing, the end being always some form of dramatic play.

In the later stage of Infants' School life, corresponding to the change from a "play" to a "work" attitude of mind, we find that an interest usually attracts the attention of the whole class and is sustained over a longer period of time. We shall generally see a desire for closer approximation to reality, shown by better types of construction and evidence of a more intellectual attitude of mind, especially in the last six months of the child's stay in the Infants' School.

¹ Chapter III.

CREATIVE AND CONSTRUCTIVE ACTIVITIES

In the first chapter, we referred briefly to the conception of a curriculum based on the interests and activities of children, and indicated the way in which this idea has been interpreted by Dewey and Decroly.

Some educators assume that the chief mark of a project is that it is chosen by the children, but Dewey suggests that it is not always necessary for the teacher to wait for a child consciously to express the desire to follow some projected line of activity, since the sympathetic teacher is likely to know more clearly what impulses are struggling for expression in a child's mind than the child himself.¹

Both Dewey and Decroly think that the child develops along "racial" lines, and that we should select interests for his study that have been of fundamental importance for racial progress.

Dewey sees all the various bodies of knowledge that we call Geography, History, Science, Mathematics or Language, as the result of the accumulated experience of the race. "They represent," he says, "the cumulative outcome of the efforts, the strivings, the successes of the human race, generation after generation."²

He conceives of the curriculum for children of five and a half to about eight years of age as an ever-widening circle of interest. It begins from the child's interest in himself, his family and his home, extends to a study

¹ *The School and the Child*, p. 60.

² *Ibid.*, p. 26.

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of the immediate environment and the work that goes on in it, and later to a study of the origin of those occupations that the child has observed in his immediate environment, or of which he has gained knowledge at second-hand, from pictures, books and stories.¹

The Decroly programme has as its basis the four fundamental needs of man—shelter, food, protection and work. For young children, these centres of interest may appear too advanced, but we must remember that in planning this curriculum Decroly had in mind children between the ages of six and twelve years, and that the programme is intended to cover the whole of this period in an orderly and continuous manner.

These centres of interest do make a strong appeal, even to children of six years, if each study starts, as it is intended to do, from the child's own life, the food he needs, the home he lives in, the clothes he wears, the work that he does or that other people do for him.²

There is much in common between the ideas of these two educationists, since the interests are selected in the belief that the child, as inheritor of racial tendencies, must inevitably feel impelled to work along the lines of experiment and investigation that have been of importance for man's development.

Nor, if we consider the matter carefully, is there a great deal of difference between leaving the choice of

¹ *Ibid.*, pp. 48-69.

² *The Decroly Class*, pp. 19-25.

the interest to the children or to the educator, since Dewey and Decroly both emphasise that only the central idea is to be proposed by the teacher, while the method of interpretation always follows the lines suggested by a particular group of children. On the other hand, if we examine the self-chosen projects of children, we invariably find that they come under one or other of the main interests described above.

Not all the child's impulses are of equal value for his education in the "school's" sense of the word, although we may believe that the expression of every play impulse has significance for emotional development. It is the task of the educator, from his observation of the child's free play, to select and develop those lines of interest which will best carry him on to "a higher plane of perception and judgment, and equip him with more efficient habits . . . so that he has increased powers of control and action."¹

We shall consider, then, the working of the project method along certain selected lines of interest. But, first, let us try to estimate the advantage of working in this way:—

(1) Rightly directed, the project method develops a child's power of thought, for in the course of his construction he constantly meets problems that have to be solved. Let us take as an example a group of children engaged in the study of their environment.

¹ Dewey, *The School and the Child*, p. 58.

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At one point perhaps they wish to build a bus large enough for them to ride in, so that they may play at the activities connected with "bus riding." The bus must have seats. The children discuss with the teacher what they can use for these, and finally decide on six or eight little chairs. The outside of the bus must be planned. Discussion as to possible material arises. The real bus has a body of wood and glass windows, but there is no wood available for the children's use, so cardboard or stiff paper supported by slats of wood is suggested by one boy who has already made a shop in this way. The idea is accepted by the class and the work is put in hand. Then comes the thought as to how high the bus should be, and how large the door must be made to allow the children to enter the bus. Thus the planning goes on, until finally the construction is completed and dramatic play begins.

(2) Since the manipulation of material and the use of certain tools is often quite difficult, *real effort* is involved, for the children must strive to overcome difficulties. This develops a vigour of mind, courage, independence and power of attack that the easy, directed handwork, so frequently taught in Infants' Schools, can never do.

(3) From the physical point of view the children gain a great deal from the manipulation of varied materials, for not only are their hands developed, but the muscles of the whole body are strengthened—a matter of

importance for after life, whether the child is going to work with his hands or not.

(4) Again, this rough and ready, but real, constructive work brings the children into contact with a wealth of materials. In this way they gain first-hand knowledge of the nature of the material and how it can be shaped to their ends. The children develop a really common-sense attitude towards tools and material—an attitude that one often finds lacking in adults who have not been educated in this way.

(5) Skilfully directed, every project leads at some point to an increased interest in reading, writing or number. This is of value, not only as a supplement to the systematic teaching that will probably be given at another time of the day, but, for some children, is the real means by which they gain confidence and skill in these arts.

(6) The acquisition of knowledge through the medium of project activity is much more truly educative than the more or less logical method of learning by isolated subjects, for at this stage, as Dewey says, "Classification is not a matter of child experience, things do not come to a child pigeon-holed," or in subjects, but rather through variety of personal experiences and activities.

(7) Finally, working through projects brings teacher and children into closer and more friendly relationship, brings the school into closer relation with the home,

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for all teachers who have worked on these lines know of the interest that the parents take in the work that is going on in the classroom and the desire that they often show to take a part in it.

Objections are sometimes raised by teachers against the idea of working through projects. They complain, for instance, of lack of space. This is certainly a hindrance, since there is no doubt that children do prefer bold construction, and this requires a good deal of room. But it is a mistaken notion that if one cannot do large work, one cannot do anything at all. The real criterion of the success of a project is what it means to the children, their absorption in it, the way in which their minds play over it. The writer has seen work carried out under conditions of space that necessitated quite small-scale construction, yet this work had the most stimulating effect on the children's minds.

Another objection is that projects involve a great deal of work for the teacher, especially in areas in which it is difficult for the children to provide much of the required material. It is certainly true that the project method does involve hard work, but it is always refreshing work, for no teacher who has worked on project lines ever seems to wish to return to the narrowly prescribed method of teaching by subjects.

Again, teachers sometimes say, "Are not the children bored when they are dealing with the same idea all the time?" The answer to this is that if the project

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lasts only as long as it is supported by the interest of the children and is carried forward by the children's activity and suggestion, it can hardly be expected to bore them. It is only when a teacher tries to give an adult elaboration to the interest, or has in mind some adult standard of achievement, that the interest of the children is likely to flag. We can always tell when the children are suitably at work by the intense mental and physical activity that is displayed.

Lastly, there is the objection—often very real to a “tidy-minded” teacher—that project work makes a classroom untidy and noisy. In a sense this is true, for it is hardly possible to have a dainty and refined-looking classroom, pleasing to teachers and visitors, and, at the same time, to carry on the vigorous work that is necessary for the children's mental and physical development. Yet by careful planning, much of the expected muddle and disorder can be avoided. There should be a place for tools, and a “keeper” of the tools; a place for properties and dressing-up material and a “mistress of the wardrobe”; a box for large waste material and one for small waste material; a place for paints, brushes, glue and paste, each with its “keeper.”

All the children should be trained in good habits of work; the use of working overalls should be encouraged (we can learn from continental schools in this respect); we must teach the children how to protect the furniture and the floor when painting operations are in hand.

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Finally, constructions should not be kept in the room longer than is necessary for the satisfaction of the children's interest. Children's projects should never be regarded as trophies to be retained for exhibition purposes, but should be "scrapped" as soon as they cease to have value for the children's growth and development.

Classrooms for children should be playrooms or workrooms, but this does not mean the exclusion of beauty. Window ledges and the teacher's table can still be gay with flowers and growing bulbs; we shall keep our Nature corner with its calendar and Nature collections; the walls of the classroom will be decorated with friezes and illustrations associated with the season of the year.

SUGGESTIONS FOR THE DEVELOPMENT OF INTERESTS ARISING FROM A STUDY OF THE IMMEDIATE ENVIRONMENT

It is impossible, in a few pages, to give an adequate account of the varied ways in which a study of the immediate environment may develop as the result of the children's suggestions.

We shall begin by discussing in some detail "Shops and Shopkeeping" as a centre of interest for children of six to six and a half years, so as to bring out under-

lying principles of method, and conclude by offering a few suggestions for the extension of the interest for children up to eight years of age.

1. A Centre of Interest based on "Shops"

Interest in "shops" appears to reach its height between six and six and a half years. In an earlier chapter¹ reference has been made to a "play" interest in shops as an outcome of a "home" interest.

At six years the interest seems to be of a more serious nature; shops must be as "real" as possible, while all the activities connected with buying and selling are meticulously carried out. Construction may take the form of a small general shop, such as might be found in a village or the small back streets of a town suburb; or the children may decide to build a row of shops, or a co-operative store, or a street market.

Planning the Work.—Both the teacher and the children will need to make a plan of work. The teacher's plan will naturally envisage a wider field of activity, for she will see not only the immediate work of construction, but also the possibilities of the development of the idea along intellectual lines. She will have in mind the way in which interest in reading, writing, number and the acquisition of general knowledge may arise as the outcome of the practical work.

The children's plan will be concerned, at first, with

¹ Chapter III., p. 52.

the actual construction and with the goods to be sold in the shop or market, and only later will the necessity for writing or number, or perhaps reading, be realised.

Before the work is put in hand, the children and the teacher should pay a visit together to the shops or market in the vicinity, so that there will be a common ground of discussion. Following the visit, a plan of work will be made. Construction should be as large as possible, as the children will wish to play in the shops, but, naturally, size must be determined by the available space in the classroom.

Material must be collected; the children will readily suggest the use of large boxes to form the basis of the shops, and these can usually be acquired from neighbouring shopkeepers. Smaller wooden and cardboard boxes, plasterer's laths, odd pieces of cardboard or stiff paper will also be needed. A few tools, together with paints, brushes, glue, paste, clay, etc., will be required.

Arrangement of Practical Work.—If the class is large, group work is a necessity. Each group of five or six children should be made responsible for some special part of the work. As a rule, children should be allowed to volunteer for different types of work. In the main, boys do seem to prefer the more vigorous, energy-using types of construction, such as sawing and hammering, although we find some little boys who actually dislike it, while some girls are as keen as the boys to do "woodwork."

It is often a good plan to have more than one shop in the process of construction, as in this way more of the really satisfying practical work can be provided, and there is less danger that the more tractable or less enterprising children will be employed in such occupations as making paper bags, or purses, or cardboard money, necessary activities perhaps at a later stage, but not nearly so stimulating for the children at the inception of the project.

Discussion Lessons.—These are a most important part of the method. They may be of two types:—

(1) Discussions as to use of materials and tools, and method of work.

(2) Discussions of the thought-provoking or of the informative kind.

At first, talks will be concerned chiefly with a review of what is being done, but when construction is nearing completion the teacher will often use the time to convey interesting information, which will stimulate the children's curiosity to discover things for themselves.

Let us imagine, for instance, that the children have set up a greengrocer's shop. One day they may be asked to give a list of all the things that the greengrocer sells—vegetables, fruits and other commodities, such as vinegar, pickles, jams, herbs. The teacher will perhaps write the names of the objects on the blackboard as

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they are mentioned. Then, later, the children will copy the names into their "Word books." (See Chapter IX, p. 183.).

Talks on the fruits and vegetables will follow, *e.g.* where and how they are grown, how it is that we are able to have so many of the fruits all the year round. The children can be encouraged to examine labels on the boxes in which fruits are packed. They can then hear something about the people who send the goods to us, the work they do, the country they live in. These talks must naturally be very simple, but at the same time they should be accurate.

Lessons must be illustrated by good pictures, and supplemented by picture books with simple reading material for the children's independent study. The series *Story Books of Things We Use*¹ and *This is the Book*² are suitable for this purpose.

Co-operative picture scrap books, or small scale models of life in our own country or in other lands, can often be made in connection with the talks, *e.g.* an English fruit or dairy farm, an orange grove, or a model to illustrate the transport of dates across the desert.

Shopping Play, leading to Notions of Number.—When the shops have been built up and furnished with goods, shopping play follows. This leads directly to work

¹ M. and M. Petersham, *Story Books of Things We Use Series*. Dent.

² J. Smalley, *This is the Book*, and *This too is the Book*. Blackwell.

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with money, slightly more advanced than that described in an earlier chapter. The common coins, $\frac{1}{2}d.$, $1d.$, $6d.$, $1s.$, $2s.$, $5s.$, $10s.$ note and, later, $\pounds 1$ note, will be examined and compared. The children can prepare charts, using cardboard money to show the relative values of the coins. They can learn how to write price tickets for the goods in the shops and make a till to hold cardboard money of different values. They can be shown how to prepare small bills and to count the amount of money taken daily by the shopkeepers.

If this activity is being carried out by children of seven to seven and a half years, more advanced work in the addition and subtraction of money may be done. (See Chapter X, p. 218, and Fig. 22.)

The "shops" interest may also lead to the development of notions of "time," for shops open and close at stated times each day. The children can make clock faces for their shops, and learn to read the hours, half and quarter hours, at least.

Again, this aspect of "number" can be developed further with children between seven and eight years, and interest in the history of the measurement of time can well form a small by-project. Teachers will find *What Time is it?*¹ invaluable for information on this subject, since it describes in a simple yet vivid manner the ways in which man, through the ages, has devised means of measuring time more accurately. The

¹ Ilin, *What Time is it?* Routledge.

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children can watch the apparent movement of the sun around the school building, set up shadow sticks, make candle and water clocks, visit a sundial, and use a sand-glass to time their speed work in mechanical arithmetic.

Shopping interest lends itself also to simple knowledge connected with weights and measures. In an earlier stage the children may have used crude home-made balances with weights of sand, clay or conkers. At this stage they can be introduced to real scales and the standard measures, *e.g.* 1 lb., $\frac{1}{2}$ lb., $\frac{1}{4}$ lb., etc. At this age, interest in weighing is so great that many children choose this before anything else in a free activity period. If this interest is encouraged in the Infants' School, a really sound foundation will be laid for future arithmetic work in weights and measures in the Junior School.

Development of Interest in Writing.—One of the most valuable intellectual interests of a project is the training it gives in keeping a record. The "Record Books" of Infants' School children must of necessity be very simple, but each child should have its own loose-leaf book. This will contain an account—at first largely pictorial—of the way in which the interest is developing.

Gradually the children will begin to write a few sentences descriptive of their illustrations. At this point the teacher can sometimes help the children by writing sentences—suggested by them—on the black-

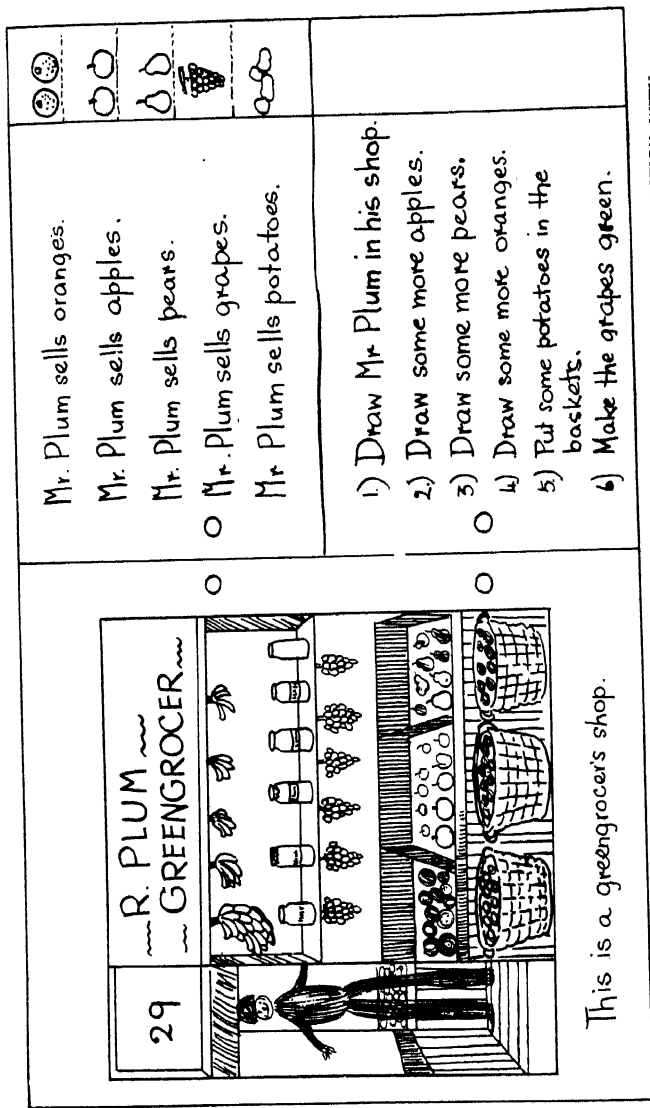


FIG. 3.—SPECIMEN PAGES OF A CHILD'S PROJECT READING BOOK DEVELOPED IN CONNECTION WITH A "SHOPS" CENTRE OF INTEREST.

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board. These are copied by the children; but very soon the records can be kept independently.

This practice of describing, simply and naturally, their own activities is an excellent introduction to written composition. Motive for writing is provided in a way that is often lacking in set composition lessons, in which a child must often feel that he "has to say something rather than that he has something to say" (Dewey).

The printing of labels for the goods in the shop and the making of attractive posters also form part of the writing activity at some stage of the work, and provide further motives for good writing and correct spelling.

Development of Interest in Reading.—A great stimulus is often given to interest and skill in reading through the medium of the project, if pages of hectographed material are prepared by the teacher. Some can be of the "informative" type and serve as a summary of the informal talks suggested above; some may be supplementary to the children's own records, for we must remember that little children write slowly and should not be asked to write very much at one time. Their records will, then, either tend to fall behind the course of the practical work or to become scrappy and disconnected. The teacher's contribution will serve to draw the whole idea together, while, at the same time, it will give her the opportunity of enlarging and en-

riching the children's reading vocabulary. (See illustrative Figs. 3 and 4.)

2. The Development of an Interest in "Workers"

Between six and seven years of age interest in shop-keeping is often transferred to other "workers" in the environment. For days, or even weeks, at a time, a group of children may be absorbed in a dramatic representation of the life of a postman, sailor, nurse or bus conductor.

This play must not be regarded as trivial and unworthy of the teacher's attention. Professor Nunn calls this tendency to realistic imitation a "kind of experimental self-building," and believes that it has great value for the development of a child's personality.¹

When, through observation of the children's play, we can see that one of these interests is dominant, we should help the children to make outfits and properties for use in the classroom or playground; we can help them, for instance, to build a large bus and make driver's and conductor's outfits, etc. This equipment is then available for group play whenever the children have a period for self-chosen occupation.

Interest in these workers will naturally lead to an extension of knowledge, for we could invite a father

Nunn, *Education: Its Data and First Principles*, pp. 161-163.

postman, policeman or bus driver to the school to tell the children something about his work.

At some point the interest will touch writing, reading or number, *e.g.* in connection with the postman's work, the children may learn how to write a letter, while buying and selling bus tickets will give practice in dealing with money when a "bus-riding" activity is at its height.

3. Development of an Interest in the Environment as a whole

For children of seven to eight years who have had the experience of the bold constructive work suggested above, a study involving the planning and setting up of a small-scale model of the surrounding neighbourhood may well follow.

We shall often see the beginnings of this interest in the children's use of their floor building material. They lay out roads, build houses, shops and garages with bricks or waste material; collect small objects, such as toy models of people, trees, cars, horses and carts, and play out the life that they see going on around them.

At this age, the child's interest seems to undergo a change; he no longer wants the large house or shop of the earlier stage, but rather collections of smaller objects which he, as "Master of the Ceremonies," can manipulate.

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It seems as if the manipulation of miniature copies of the marvellous real objects by which the child is surrounded ministers to his positive self-feeling. At some time during this period every child identifies himself with the little boy in the "Land of Counterpane," who as "Giant of the pillow hill:"¹

"Sometimes sent my ships in fleets,
All up and down among the sheets,
Or brought my trees and houses out
And planted cities all about."

Dr. Lowenfeld's discussion² of the value of what she calls "Worlds" material is most suggestive for all teachers of young children. She believes that play with these small toy copies of the real objects is the means by which the child makes clear to himself his concepts of the "outside" world. Even in schools where project activities are not the basis of the curriculum, we should still provide sets of little toys for the children's free constructive play at this age.

We can believe, then, that the teacher who suggests the idea of making a model of the neighbourhood is following the unconscious desire of the children to know more of the world around them.

The work of planning the model can start from the school, which, to most children, is the focus of their interest at this time. On the floor, or on a large black-

¹ Stevenson, *Child's Garden of Verse*.

² Lowenfeld, *Play in Childhood*, pp. 49 and 161.

CREATIVE AND CONSTRUCTIVE ACTIVITIES

board placed horizontally, the children can build the school with small bricks, sketch in the roads along which they come from their homes, arrange matchboxes to represent their houses, build up the larger buildings with bricks or boxes, and in this way get in mind a rough, concrete plan of what they are going to do. While this is being done, the teacher has the chance of drawing attention to the proportionate size of the buildings as a preparation for the constructive work that will follow.

Material will then be collected. Since the power of manipulation and accuracy in measurement is still relatively weak in seven-year-old children, we can help them to achieve an end more satisfying to *them*, by showing them how to use material that is already partially in shape. Large matchboxes, cigarette cartons or similar shaped boxes can be collected as a rule in generous quantity, and with very little manipulation the children can turn these into quite satisfactory representations of houses and shops, a church, a school, a cinema or garage.

Since our wider-scale study needs a good deal of floor space, a folding ground-sheet made of calico or canvas is often useful. This can be folded up and put away on a shelf when the floor is required for other activities. Cardboard boxes can be used to pack away buildings, trees and other objects, so that the work of laying out and collecting up the model can be done in

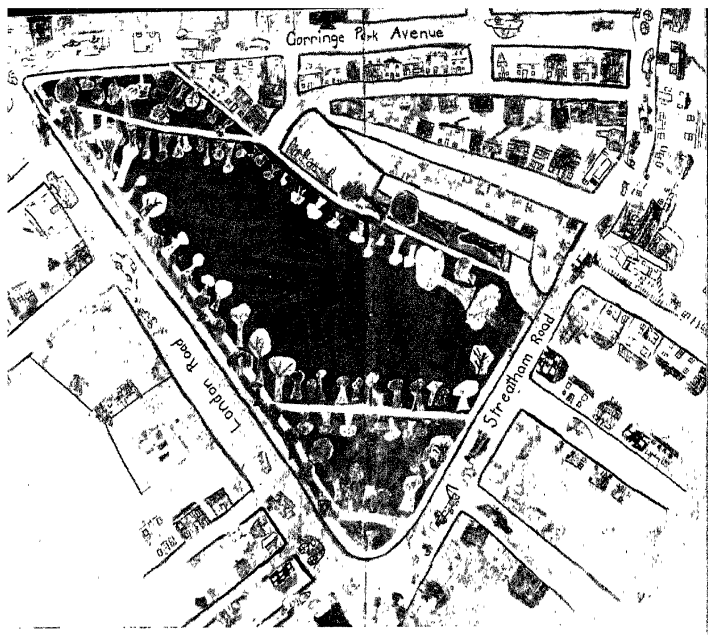
TEACHING IN THE INFANTS' SCHOOL

a very few minutes by the children. (See picture plan of model, Plate IV.)

On the ground-sheet the children will map out the roads, open spaces, fields, etc., and paint them in with distemper or tempera paint. Every child can make a house and a shop, while for the construction of the larger or more complicated buildings we can utilise the skill of children who show superior ability in construction. Since these are sometimes the children who show less aptitude for reading or number, the honour thus conferred on them is a great restorative of self-confidence, while, on occasion, it has a direct effect on interest in what may be called the more "academic" aspects of the project.

While the constructive work is in progress, interesting discussion usually arises. The building of the school may lead the children to ask questions about schools, *e.g.* what school was like when the teacher was a little girl, or about schools for children in other countries, or, again, while the children are making a cinema or garage, the teacher has the opportunity of extending the children's knowledge about the beginnings of moving pictures or the first motor-cars.

From seven to twelve years of age, children seem to have an intense desire to accumulate knowledge, and we should do all that we can to feed this hunger; not merely by answering the children's questions, or telling them facts, but also, especially in the Junior School



ATE IV

A co-operative "Picture" map made by children of $7\frac{1}{2}$ years from a model constructed in connection with a "centre of interest"—a study of the home and school environment.

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stage, by providing books from which children can find things out for themselves; by planning visits to places where the children can learn by observation and the explanations of experts; or by the visits of people to the school who can give the children accurate information in answer to their questions.

Of the intellectual gain from this type of simple "Town" study there is no doubt, for not only is the child's general education carried forward, as we have implied above, but the development of independent work in reading and writing can be greatly furthered, while it can easily be seen that the study forms the natural starting-point for interests which will later emerge along the lines of history, geography and science.

In conclusion, let us summarise what the children should have gained through their project activities.

We shall expect to find them active-minded and intelligent in their attitude to all kinds of simple problems within the range of their experience. We shall hope that their minds will be well-informed, both from talking to the teacher and through independent study of books and pictures.

Finally, but not really most important at this age, we shall find that the quality of the work in the "Three R's" is much better than that achieved under a more passive mode of learning, dependent upon the teacher's driving force and power of suggestion.

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SUGGESTIONS FOR READING AND STUDY

Rugg and Schumaker	<i>The Child-Centred School</i> , chaps. i, v, vi.
Dewey, J.	<i>The School and the Child</i> , pp. 17-73.
Hamaide, A.	<i>The Decroly School</i> , pp. 13-53.
Froebel Society's Publications	"Shops" Project; Zoo Project.
Gull, H.	<i>Projects in the Education of Young Children.</i>
Stevens, M. P.	<i>The Activities' Curriculum in the Primary Grades.</i>
Lincoln Elementary School Staff	<i>Curriculum Making in an Elementary School.</i>

BOOKS FOR CHILDREN'S READING AND STUDY

Mais, S. P. B.	<i>A Book of Food.</i> Transatlantic Arts, Ltd.
Carey, M. C.	<i>The Baker; The Milkman; The Farmer; The Postman.</i> Dent.
Petersham, M. and M.	<i>Story Book of Food; Story Book of Houses; Story Book of Transportation.</i> John Winslow, Toronto.
Badmin, S. R.	<i>Village and Town</i> (Puffin Picture Book). Penguin Books.
Hume, E. G. and Wheeler, E. C.	<i>My Book of Shops.</i> Evans Bros.

CHAPTER VI

DRAWING AND PAINTING FOR CHILDREN OF SIX TO EIGHT YEARS

IN the earlier chapters we referred briefly to the child's love of drawing and painting.

In the nursery class this interest shows itself, at first, in more or less formless scribble, or in efforts to cover large sheets of paper with splodges of bright colour. At this stage, the chief interest appears to lie in the manipulation of tools and material and in the sense of power that the child gains from the work.

Before the end of the nursery age, drawing takes on a new character; it becomes one of the child's favourite modes of expressing his ideas; it is, in fact, a kind of graphical language. It is through this drawing rather than through speech that the child tells us—if only we are able to understand—what he knows and feels about the things that interest him.

For most children, this joy in drawing remains unabated throughout the six to eight years old period, so long as the children are left free to select their own subjects and are not made self-conscious by ill-timed criticism or praise.

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Within the last few years a great stimulus has been given to what is sometimes called "the art work" of young children, through the provision of better tools and materials, *e.g.* by the substitution of large sheets of inexpensive paper for the small pieces of brown paper of an earlier day, and by the use of charcoal, tempera paint and large brushes in place of the pencil or crayons.

Now, the provision of more suitable material has had the undoubted result of making children's drawings bolder and more spectacular in effect, and to an adult, perhaps, more pleasing to the eye, but we need to beware of forming an exaggerated estimate of the child's productions, lest we tend to exalt this particular form of activity to a position that is out of proportion to other equally valuable modes of self-expression, such as constructive activity and dramatic play.

For a sane view of the child's tendency to draw and paint, we need to see it as a form of "play." Let us

Professor Nunn, "since the soul of art, like that of play, is the joyous exercise of spontaneity."¹

In many children this impulse towards graphic expression, having played its part in the child's development, tends to disappear at about eight or nine years of age; in some, it is carried on to a higher level of artistic production consistent with the child's more developed view of the "real" world, by means of enlightened teaching.

In a few children, love of painting and drawing survives the "play" years and then becomes a genuine "art interest" which will be pursued irrespective of teaching, although it may be greatly helped by a skilled teacher. We may, perhaps, assume that these are the children who possess specific ability for drawing.

The Study of Children's Drawings

Children's drawings have been extensively studied since the later years of the nineteenth century. A brief description of this work is given by Dr. Goodenough² at the beginning of her own valuable contribution to the subject. All investigators find certain characteristics common to children's early drawings. A brief summary of these may perhaps serve as an introduction to the

¹ Nunn, *Education*, chap. vii, p. 90.

² F. Goodenough, *Measurement of Intelligence by Drawings*, chap. i.

student's independent study of some of the literature on the subject.

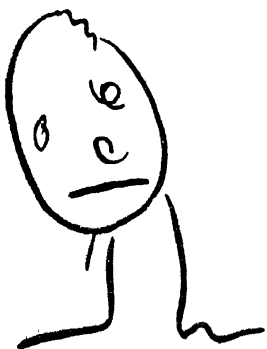
What strikes an observer first about a child's attempt to draw is perhaps its courage. Nothing is too difficult for him; he starts usually with the human or animal figure, but soon we find him gaily drawing a house, a charabanc or steamer with equal facility and assurance.

How can we account for these daring efforts? It would seem that children draw from memory—draw from what they know, not from what they see before them. Buhler¹ holds that the child, quite early, forms a simple mental pattern or concept of objects that interest him, and that it is from this "schema" that he draws, not from a "concrete" image. Nowhere is this tendency more clearly illustrated than in a child's drawing of the human figure. (See Fig. 5.)

It would seem, too, that when once a satisfying pattern of an object has been accepted by a child's judgment, that form of representation tends to become habitual, becomes, in fact, automatic, and may persist throughout the period of spontaneous drawing. Thus a child, when he first begins to draw a landscape, will paint the blue sky at the top of the paper, the green grass at the bottom, with a space between earth and sky in which, perhaps, he puts the sun or moon, a bird or aeroplane.

¹ K. Buhler, *Mental Development of the Child*, chap. v, p. 109.

1. $4\frac{1}{2}$ yrs.



2. $5\frac{1}{2}$ yrs.



Dad shaving

3. $6\frac{1}{2}$ yrs.



Girl

4. $7\frac{1}{2}$ yrs.



Sweep

FIG. 5.

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It is probable that, in the first instance, the child draws in this way because he knows that the sky is far above his head, the green grass beneath his feet, with the bird or aeroplane in the void between, but this schematic form may become stereotyped in some children and will then be used for all kinds of landscape effects, unless the teacher can do something to break down the habit. Rouma¹ thinks that this tendency to automatism accounts for many peculiarities of children's drawings, such as the introduction of two eyes into a profile drawing of a face.

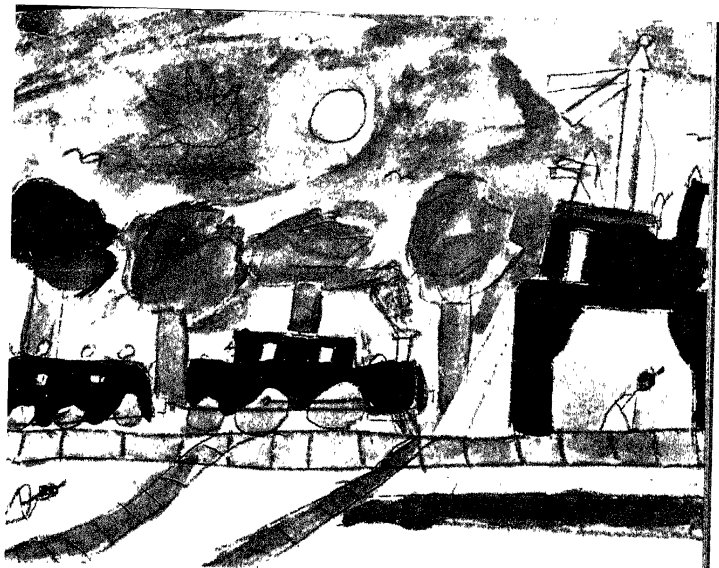
It is true, of course, that even in these conventionalised drawings we can perceive development, but this consists more in the addition of details to an existing pattern than in an attempt to change the original form by closer observation of the real object. (See Fig. 6.)

It is interesting to note at this point Karl Buhler's theory that the child with real artistic ability possibly never develops the "schema" style of drawing.²

Characteristic, too, is what Sully calls the "technical inaccuracies" of the drawings. Young children have little realisation of time and space, so that in their pictures we must not be astonished, to see the sun and the moon in the sky together (see Plate V); or, while snow lies deep on the ground, to find the trees clothed in summer verdure; furniture will be drawn outside a

¹ Rouma, *Le Langage Graphique de l'Enfant*.

² K. Buhler, *Mental Development of the Child*, p. 120.



ine and Tunnel.

Leslie 63

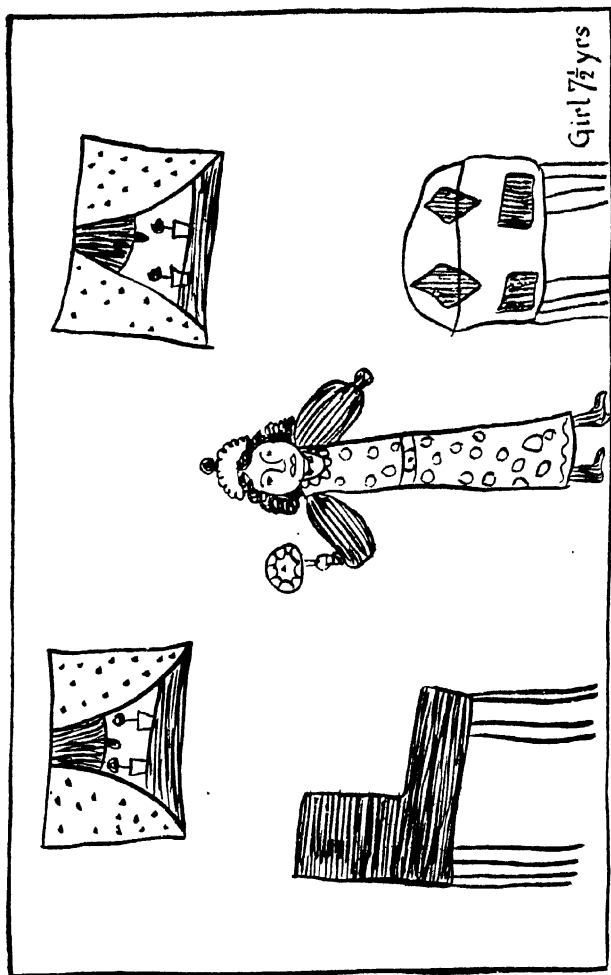


FIG. 6.

TEACHING IN THE INFANTS' SCHOOL

house, while a room is shown to be quite capable of containing an aeroplane.¹

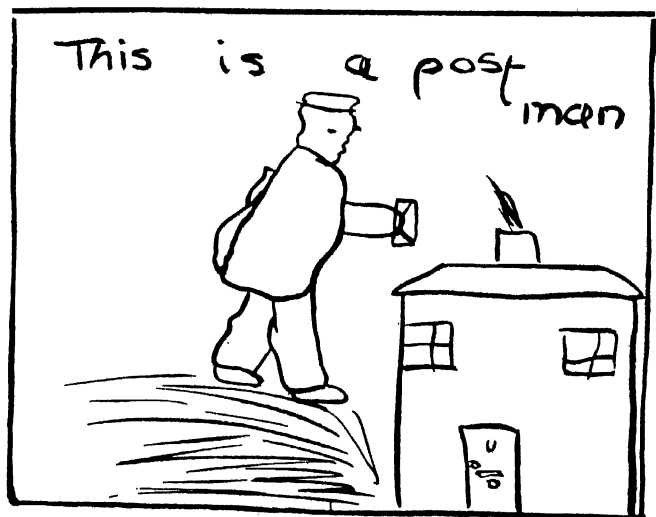
Most noticeable, also, is the disregard of proportion. For a child, proportion is determined by his interest in some special feature, not by fidelity of observation. What he feels to be important attains prominence in the picture, quite regardless of relative size. (See Fig. 7.)

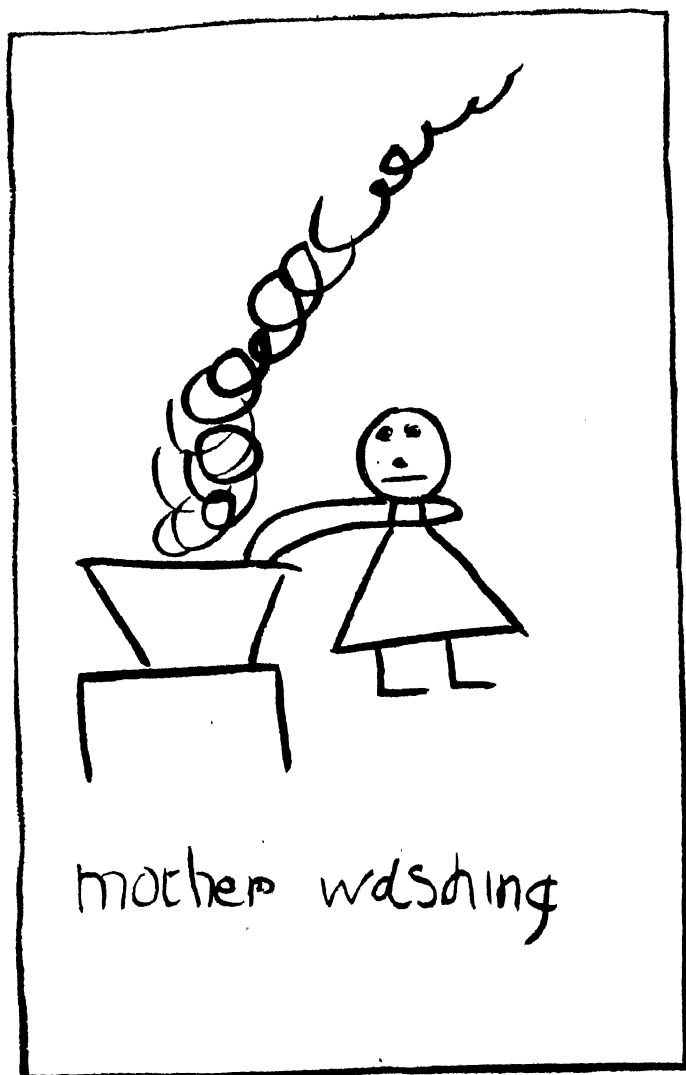
Structure, too, is ignored in favour of a vivid mode of expressing activity, *e.g.* a child may wish to draw a picture of "Mother doing the washing or cleaning the window"; he draws her, perhaps, too low or too far away for her hands to reach the tub. This does not disconcert the child at all—he merely lengthens the arms or gives them a sinuous curve, so that the activity can be indicated. (See Fig. 8.)

Typical, also, is the tendency to make "transparent" drawings, *e.g.* the body is shown through the clothes, both legs of a man on horseback are to be seen, the interior of a room appears through the outer walls. This is all part of a child's wish to draw what he *knows* to be there, not what is really visible to a spectator. (See Fig. 9.)

Lack of understanding of perspective produces very quaint effects in children's drawings. In the earliest pictures the child makes no attempt to represent this; if he draws a crowd, for instance, the figures appear

¹ For discussion on "Spatial Relations," see H. Eng, *Psychology of Children's Drawings*, pp. 143-151.





mother washing

FIG. 8.

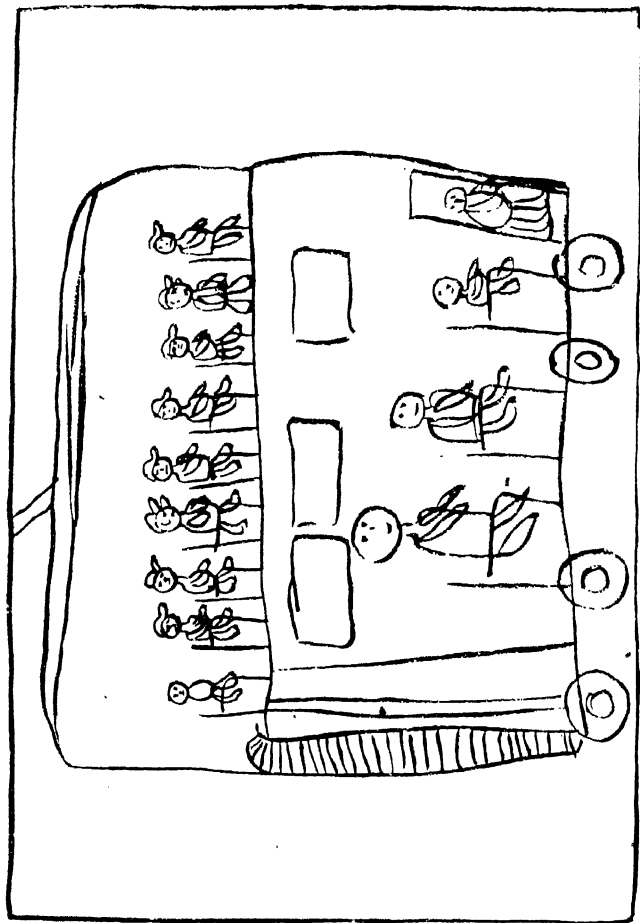


FIG. 9.—AN EXAMPLE OF "TRANSPARENCY." DRAWN BY A BOY AGED $7\frac{1}{2}$ YEARS.

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in a long row standing upon a straight line; while a room is represented as a flat back wall with all the furniture standing along its bottom edge. (See Fig. 10.)

At the next stage, the child shows his appreciation of distance by placing objects above one another, *e.g.* children farther off in the playground are drawn higher up on the page, or a house is put in the middle of the sheet with the gate and fence at the bottom. Presently he begins to connect these objects by lines; he will draw, for example, a garden path running in a steep slope from the gate to the front door, but objects are still represented in entirety. (See Fig. 11.)

Many children do not outgrow this "picture-plan" type of perspective arrangement before the drawing impulse fades away, but others show the beginnings of a real grasp of the idea, for objects at a distance are drawn smaller, lines are made to converge, objects in the foreground are shown as partly covering those behind.

When a child begins to draw in this way, he may be said to have reached the "realistic" stage of drawing. His "play" activity is beginning to merge into "art interest." At this point a child may be transferred to a Junior School, where, too often, spontaneous drawing is not encouraged. The result is that the child's power of pictorial representation stops short at this point.

Within recent years, however, the enthusiastic work of Miss Marion Richardson has undoubtedly effected a change in the drawing lessons in Junior Schools, by

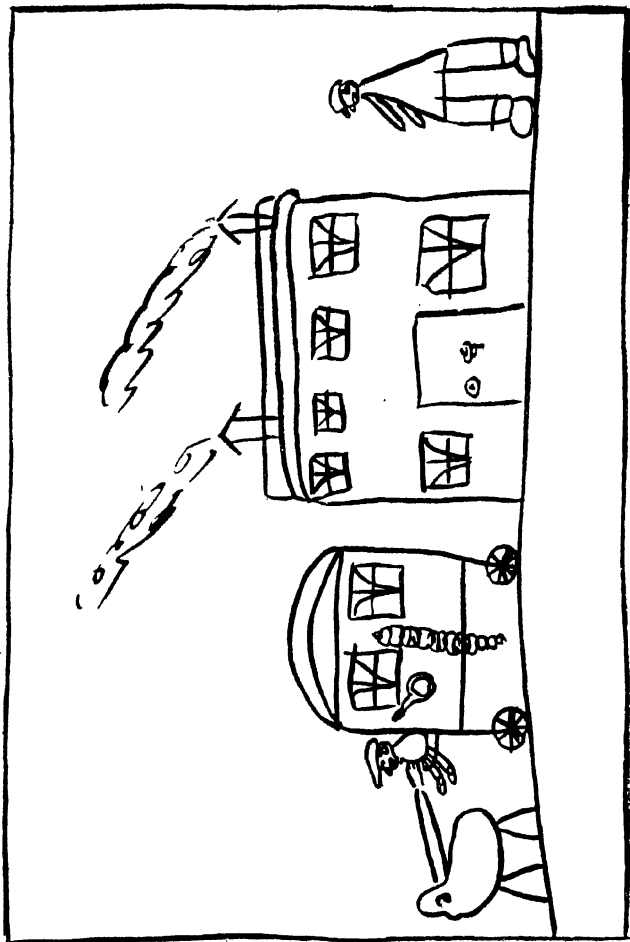


FIG. 10.—ALL THE OBJECTS STANDING UPON A LINE.

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the introduction of work which is intended to be a direct continuation of the spontaneous drawing of a child in the Infants' School.

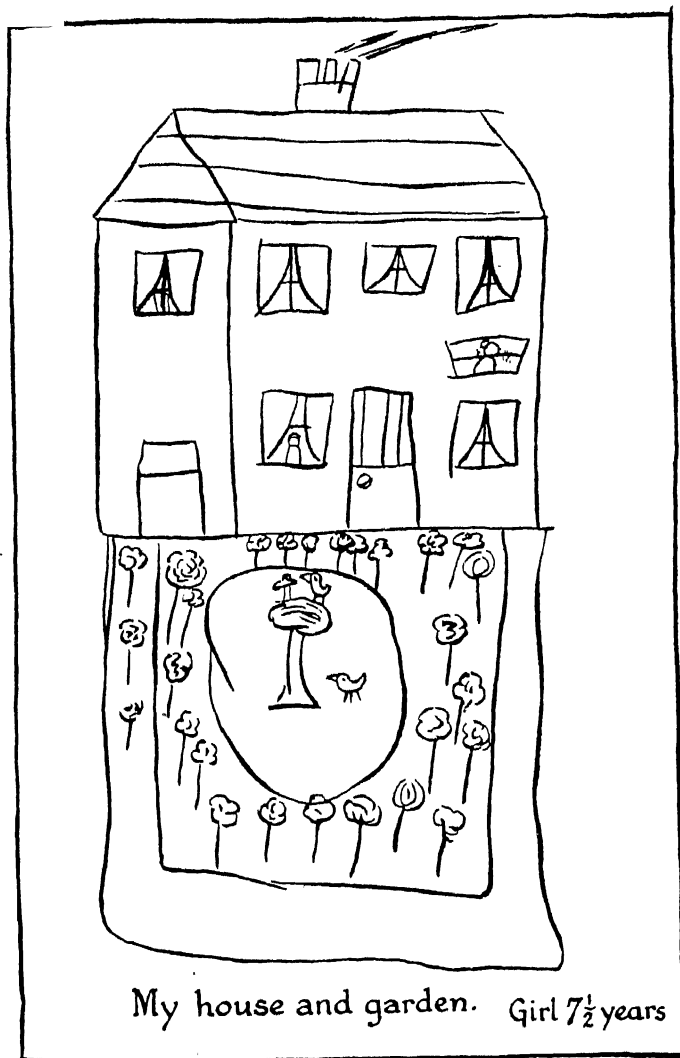
Children's Drawings as an Indication of their Mental Development

So consistent to type are the spontaneous drawings of children through infancy and childhood that psychologists have come to regard them as an indication of mental growth. Professor Burt, using the "sampling" method, has prepared an age scale for children from three to fourteen years, by means of which a teacher can study the mental development of the children in her class.

Using the human figure as test material, Burt collected a large number of drawings of "a man" from children of school age. From these, a "median" or average sample was selected for each age. By comparing a child's drawing of a man with this median sample, it is possible to arrive at his mental age by means of the drawing scale.

Dr. Goodenough, using the same test material, has prepared a simple numerical scale of measurement. She found definite progression from infancy to childhood in the attempt to portray the human figure, shown by the addition of fresh features and the turning of the figure from full face to profile representation.

By finding the chronological age at which certain features commonly appear, it was possible to make an



My house and garden. Girl $7\frac{1}{2}$ years

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age scale with a norm of performance for each age, points being allotted for each additional feature.

By comparing the children's score on the drawing test with other estimates, such as school progress, teacher's estimate, and score on the Stanford-Binet Intelligence Test, Dr. Goodenough came to the conclusion that this drawing scale is a serviceable measure of intellectual growth.

It must be emphasised, however, that a single drawing should never be used as the sole estimate of intelligence, for a child's drawings vary from day to day. Although it is true that we can trace development throughout the period of infancy and childhood, yet a child will often revert to a more primitive mode of expression, and may draw his man one day in great detail, and on the next with head, body and legs alone. What we need is a collection of a child's drawings for comparison with his "test" drawing, when we are attempting to measure his intelligence.

All who wish to make use of this method of studying mental growth in children should make a careful study of Professor Burt's analysis of the stages through which a child's drawings pass from the earliest "scribble" to the stage of "artistic revival."¹

Pattern

So far, we have referred only to drawing as pictorial representation. Interest in the drawing or painting of

¹ Burt's *Mental and Scholastic Tests*, pp. 317-329.

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pattern appears to develop later than spontaneous drawing of objects, and then chiefly as ornamentation of these objects. (See Fig. 6.) Some writers place the emergence of the interest as late as six years, unless we call the chance effects of the Nursery School child definite attempts at pattern.

Considerably before six years, however, children begin to arrange *concrete* material in patterns, *e.g.* a child of four to five years loves to arrange dominoes, coloured tablets, beads, buttons, flower petals and seeds in definite rhythmic forms, which show all the principles underlying pattern formation. We can best encourage this spontaneous interest by the provision of suitable material and sufficient space and peace for the child to work out his purpose.

From about six years of age, children use pattern a good deal to embellish their pictorial drawings, and we may then assume that definite feeling for pattern drawing has emerged. At this stage some teaching may, perhaps, be given which will help to carry the child's interest on to a higher level of development. (See Plate VII and pp. 122, 125.)

PRACTICAL SUGGESTIONS

Organisation of Time

Since drawing, for a child, is a spontaneous mode of expression, ideally he should be free to paint whenever

he wishes. Generally speaking, this free independent work, with incidental help from the teacher, is all that the child under eight requires.

With large classes, limited space and the demands of other equally interesting and valuable activities, it is usually impossible to allow this complete freedom. It is often more convenient, with children of six to eight years, to have the whole class engaged with drawing and painting at the same time, and to allow two periods of forty-five to fifty minutes a week for the lessons. In these lessons, the choice of subject should, as a rule, be left to the child.

Children's preferences in drawing show remarkable consistency. At different ages, we may expect them to draw the human figure, ships, all kinds of vehicles, especially those that stand for speed, houses and gardens, and scenes from daily life representing work and activity. (See Plate VI.)

Occasionally a class lesson, with the whole class working upon the same subject, is a great stimulus to interest and effort, since it affords the teacher the opportunity of introducing the children to some new type of work; or of developing a fresh point of view. Class lessons are especially necessary for the beginnings of pattern work, for here the children need definite teaching in order to give them ideas with which to experiment.

Opportunities for giving children incidental help in

We will
feed the
birds



PLATE VI

Poster painted by child of $5\frac{1}{2}$ -6 years in connection with a "Home" centre of interest.

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painting and drawing often arise through project activities, such as the need for preparing posters, scenery, designs for materials, etc.

From this it will be seen that painting and drawing of some type will always be going on in a real activity classroom.

Organisation of Space and Materials

If the children are to do large, bold work, organisation of space is an important consideration. We can have a limited number of small double easels, capable of accommodating two children, but large sheets of five-ply wood, stout strawboard, or blackboards will also be found useful, since these can be placed against the walls and will not take up much floor space. We should also allow the children to work in the corridor, wherever the light is suitable, in the school hall, or, better still, in the playground when the weather is fine. It is most important that a child should have a feeling of space while he is at work.

Paint, Brushes, Crayons, Paper, etc.

The best medium is tempera paint. This can be obtained in a delightful range of colours, in powder form, from any well-known firm of artists' colourmen, and when mixed with water is thick and opaque and very pleasing to use. It is a good plan to keep a quantity of paint ready mixed in large glass jars, while, for

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the children's use, the paint should be poured into 4 oz. glass containers, stored, according to colour, in wire containers or sand-trays. The children should be allowed free access to the paint.

Long-handled, round, hog fitch brushes, sizes 6, 7 and 8, are best for this work. The children should be trained to take care of the brushes, and when not in use they should be kept in jars, with the bristles uppermost. We should also provide charcoal and large crayons, such as the Cosmic Free Art Crayons, for these give a bold line, and, as they are slightly greasy, do not smudge.

Kitchen paper, or baker's wrapping paper, sugar paper, grey and white, are to be recommended for picture drawing and pattern making.

Method

As we have indicated above, the children should, as a rule, be left free to choose their own subject for picture drawing. The teacher's part in the lesson on these occasions is that of a sympathetic observer. As she passes from one child to another, however, she may sometimes give incidental help, for a child will often ask for her advice, while an occasional question may lead the child to reflect on his drawing and, in this way, to improve it. In the class lessons, where all work on the same subject, the teacher will be guided by her knowledge of children's interests at different ages, in the selection of topics for painting.

Pattern

From the child's early scribbblings, from his attempts to decorate his drawings, arises interest in pattern for its own sake.

In the later stages of the Infants' School Course, the children may be introduced to design through running rhythms and writing patterns. This method of work is fully described in *Writing and Writing Patterns*.¹

A few collective lessons will be necessary in which we shall give the children an understanding of pattern making, so far as the repetition of colour and units are concerned. At first, it is desirable to limit the child to the use of two colours, but as soon as he has grasped the underlying principles, he should be allowed freedom for experiment. Gradually, he can be given more rhythms with which to play and more choice in colour.

While they are making their patterns, the children will often introduce shapes entirely unconnected with the writing rhythms; these signs of originality should always be encouraged. The children should also be led to look for patterns in nature and in the everyday things with which they are surrounded." (See Plate VII.)

The patterned papers can be used as covers to project books and home-made reading-books, or as wall-papers for a doll's house, while designs carried out on

¹ M. Richardson, *Writing and Writing Patterns*. U.L.P.

TEACHING IN THE INFANTS' SCHOOL

material can be used for making play properties, curtains or hangings for the classroom, or for use in the babies' play-house.

In conclusion, let us emphasise that no adult standard of perfection should be applied to children's drawings. We must not expect them to be neat and tidy, or, in the adult sense, well drawn, for if they are the genuine drawings of children, they will bear all those marks of technical inaccuracy to which we have referred above.

What we should look for is sincerity of thought and purpose, combined with that joyous abandonment that characterises all a child's spontaneous activity, so long as his spirit remains unfettered by the "conventionalities" of the grown-up world.

SUGGESTIONS FOR READING

- | | |
|----------------|---|
| Sully, J. | <i>Studies of Childhood</i> , chaps. ix. and x. |
| Eng, H. | <i>Psychology of Children's Drawings</i> . |
| Goodenough, F. | <i>Measurement of Intelligence by Drawing</i> . |
| Burt, C. | <i>Mental and Scholastic Test</i> , pp. 317-329. |
| Buhler, K. | <i>The Mental Development of the Child</i> , chap. v. |
| Stern, W. | <i>Psychology of Early Childhood</i> , chap. xxvi. |
| Griffiths, R. | <i>Imagination in Early Childhood</i> , chap. xi. |
| Isaacs, S. | <i>Intellectual Growth in Young Children</i> , pp. 267-273. |
| Richardson, M. | <i>Writing and Writing Patterns</i> . |

SUGGESTIONS FOR INDEPENDENT STUDY

After you have read some of the books suggested above, make a study of children's drawings and paintings, *e.g.*—

(1) Make a collection over a period of three weeks or a month of the drawings and paintings of three children of six to seven years.

Study these to see how far you can find some of the characteristics

DRAWING AND PAINTING

mentioned in this chapter and in the books you have read. Try to form some estimate of each child's stage of mental growth. Then compare this with the achievement in other subjects and with the teacher's estimate of each child.

(2) Give a class of five-six year old children the following exercise : "Draw anything you like." Collect the results, making notes on any points of interest observed by you as the children were working.

Do the same with a class of six-seven and a class of seven-eight year old children. Try to obtain a good number for each age.

Now attempt a summary of children's preferences in drawing at different ages.

In your opinion, are these preferences influenced by sex and environment? Compare your results with those of various writers on the subject.

(3) Start an album of children's drawings, under headings, to illustrate various characteristics, *e.g.* transparency, decoration, etc., with age of child and brief notes on his environment and general mental growth.

CHAPTER VII

HANDWORK

A SUBSTANTIAL part of the young child's school day should be devoted to activities with his hands. These activities will take different forms according to age and stage of maturity.

In the early stage, *i.e.* up to about five and a half years of age, the child uses sand, clay, bricks and almost any kind of waste material, such as paper, cardboard boxes, reels, tins or oddments of wood, to satisfy his love of construction and the play of his imagination.

Interests are transitory and the results of the work are rarely permanent in form. The child does not always set out to make any particular object, but rather, in the course of handling his material, something arrives to which a name is given.

The value of this manipulative work lies in the opportunity it provides for the enrichment of sensory and perceptual experience and for the strengthening of the muscles of the arms, hands and fingers and the co-ordination of the eye and hand. It is the stage in which the child begins to understand the nature of the material with which he is experimenting and what he can do with it.

Play activity of this kind should be wholly free and self-directed: the teacher's role is that of sympathetic friend and admirer.

From five and a half to eight years of age there is a steady growth of interest in more permanent forms of construction, so long as the child is allowed ample material and opportunity for experiment and is not expected to attain a degree of skill or accuracy beyond the limit of his maturing muscular power.

In other words what the children make or do with their hands must be something that appeals to their interests at that stage, whether the method of work is entirely of their own choice, or arises from suggestions made by the teacher.

What Forms of Handwork are then suitable for this Period ?

(1) *Free Drawing and Painting and Free Paper Cutting.*—These activities satisfy the child's love of form and colour as well as giving play to his imaginative ideas. Types of work have been outlined in a previous chapter. (See Chapter VI.)

(2) *Free Constructive Work*, when the child makes toys or other objects of interest to himself.

Work of this type will naturally be rough in execution, since the child's great desire is to get a result quickly.

Anyone who has watched a child of, say six, to seven

TEACHING IN THE INFANTS' SCHOOL

years in his home will have observed the skill and ingenuity that is shown in the construction of some object from material that is regarded by adults as *waste material*, e.g. the truck or cart made from a wooden box and wheels from a cast-off toy; the sword, gun or tank from oddments of wood; the tent from a sack and a few bean poles.

The same principle should apply to free constructive work in school: it should employ almost wholly waste material, such as coarse wrapping paper, cardboard boxes and cartons, tins, reels, discs of wood or metal, odd pieces of wood and textile material, odd lengths of string or cord, strips of leather, together with a plastic substance such as clay, which is relatively cheap to buy. There must in addition be a really good fixative, such as glue, and if possible some paint with which to beautify and preserve the objects made.

Since the work is intended to be free creative work, the plan and method of work should also be free, *i.e.* it should arise from the child's own thought. The teacher will act mainly as adviser or as one who is willing to co-operate with the child by putting her superior muscular skill at his service, when necessary.

With some children, e.g. those whose power of self-criticism is weak, unlimited free construction might engender a low standard of work, which would gradually develop into a habit of careless slipshod work, when in fact the children were capable of doing much better.

To counteract this tendency the teacher **might** give some definite help.

(a) From time to time she might gather a group of children around her and construct some object, making use of the same materials and similar methods of work as the children would use, but applying her superior muscular skill and knowledge of construction to make a better or at least a more durable object.

(b) From time to time she might choose to give a lesson to a group of children. The purpose of this lesson would be to teach better methods of construction, *e.g.* how to put wheels on a cart or pram, so that they will not only stay on, but also revolve, or how to fix a roof to a house, so that it will not blow off with a puff of wind.

(3) *Co-operative Constructive Work*.—From six to eight years of age the skill and power gained through free constructive work may be used by the children in some co-operative effort in relation, for instance, to a Centre of Interest.

Work of this type has been outlined in Chapter IV.

(4) *Craft Work*.—From about six and a half to eight years simple forms of craft work, such as sewing, knitting, weaving and pottery may be taken as a more or less continuous course and in *addition* to the free construction, which should always go on throughout the Infants' School stage.

It is probable that some children will already have

TEACHING IN THE INFANTS' SCHOOL

expressed a desire to sew or knit, to weave or make objects in clay, during the course of individual or co-operative constructive work.

For example, if a group of children are engaged in making a Wendy House, for dramatic play, the need for soft furnishings, such as curtains, tablecloth or bed-cover, will arise, and the teacher will then give some hints as to how these things might be made, or again if a whole class of children are at work furnishing a doll's house, some of the children will suggest making curtains, floor coverings, bed clothes or a tea-set. Elementary ideas of weaving, knitting, sewing and pottery will develop from these needs. This free, roughly executed work prepares the child's mind for the more systematic, continuous course.

To follow the lines of a craft, however simply, does involve a definite method of work. Almost all crafts require the use of certain tools, and the method of using them should be learnt from the outset, *e.g.* the child should be taught how to hold knitting-needles, how to cast on stitches, or in weaving he must grasp the principle of over and under the warp in single threads or later in groups of threads.

When planning work in any craft the teacher should have certain principles in mind:—

(a) Within the limits of learning the technique or one might say the rules of the craft that he is pursuing,

the child should be as free as possible to show power of invention, resource and ingenuity.

(b) Although the work is prescribed in the sense that a certain method of work must be followed, *e.g.* in the use of a tool or imitation of a process, yet the objects that are made should still be such as will appeal to the child.

(c) There should be a gradual advance from simple to more difficult work so that skill and technique are acquired in an orderly manner and thus the child will suffer as little disappointment as possible from the result of his efforts.

For example, supposing we suggest to the children the idea of making an outfit for a doll in knitting, it would be wiser to suggest starting with such things as a scarf, a cap, a muff or a skirt, which can all be produced by knitting a straight strip on two needles, rather than letting the child embark on making a pair of socks or stockings, which even if knitted on two needles would need more skill on the part of the child and much more help from the teacher, if a successful result is to be achieved.

Sewing.—From about six to six and a half years, there might be a period of free creative work. As suggested above, this might arise from some Centre of Interest, or in the course of making some individual toy. But free experimental sewing might also be pursued as an

TEACHING IN THE INFANTS' SCHOOL

activity in itself, when a group or even a whole class is engaged in sewing of some kind.

In these lessons each child should decide what it would like to make, *e.g.* something for a doll, or a present for its mother or some object for its own use.

After a few suggestions as to methods of work, *e.g.* how to plan and cut out a pattern and lay on the material, how to thread and hold a needle and possibly how to wear a thimble, the children should be left free to sew much as they like. The results will of course be very crude, but if the object made serves its purpose it may be regarded as satisfactory, and even if it is not satisfactory, owing to poor method of planning or sewing, it is quite a good object lesson for the child since it will prepare its mind to accept suggestions from the teacher at the next, *i.e.* the systematic, stage of work.

Waste material, that is oddments from the teacher's or mothers' scrap bags, should be used entirely for this rough, free, constructive sewing.

From six and a half to eight years of age simple lessons in stitchery can be given. These lessons are usually taken only by girls, while the boys work at some other type of handwork. This is surely a mistake, since if the work is planned from the child's point of view there is no reason why boys should not enjoy the work as much as girls and gain profit from it.

As has been suggested, the motive for sewing should

always be the making of some interesting object; learning how to use the stitches is a secondary consideration.

The modern idea of teaching the stitches is to use them as a form of decoration. In this way the child's love of pattern making (described earlier) is carried a stage further.

Soft attractive material and brightly coloured embroidery cottons or wools should be used for the first stages of work and objects selected that can be completed in a relatively short time—one or two lessons.

The introduction to the course of lessons might be somewhat as follows. The teacher first shows a number of finished articles of about equal difficulty in construction. Each child in the group then selects the object that it would like to make. If several children have chosen the same object the teacher gathers these around her, while the other children occupy themselves in some other way. A discussion about how to cut a pattern and how to prepare the material is taken. The teacher then shows a prepared pattern or makes one on the spot and demonstrates how to cut out the shape on the material and how to turn down and secure the edges ready for the coloured stitches. This group can now get on alone while the teacher takes the next group.

When all the group have prepared their object for sewing, a discussion on decorative stitches is taken. Before actually applying the stitchery to the object some teachers prefer to let the children work a little

sampler of simple stitches. This has a good deal to recommend it, especially if the small sampler can be finally turned into an object for the child's use, *e.g.* a needlebook, or purse or bag.

In recent years a number of books on decorative stitchery have been written. These will suggest ideas to the teacher from which she can make her own scheme of work.

Knitting.—Both boys and girls enjoy knitting and many children first learn this craft at home. This is undoubtedly the best place in which to learn, since the early stages require practically individual teaching. However, it can be learned in school if the children are taught in groups of two or three. When the children have gained a little facility in the use of the tools they can make all kinds of simple and pretty objects from straight strips of knitting.

Weaving, in raffia, thick cotton, thick wool or strips of felt, leather or other material, can be learned by children between the ages of six and seven years. It is a pleasant, restful occupation, but after a time the process tends to become mechanical, since when once the principle of weaving has been grasped, little thought is required to do the work. For this reason objects made should not require a long time to execute: suitably small objects would be a bag in raffia or wool for lunch or handkerchief, a purse in which to carry milk, dinner or savings stamps money, mats for use in

the classroom, small presents for mother, and doll's hats, caps, scarves, etc.

Weaving and Pottery.—Between seven and eight years of age weaving and pottery might be developed in connection with a course of lessons on "How Things Began" or in relation to a series of stories and discussions on the "Days before History," when the evolution of basketry, weaving and pottery would be taken.

Children of this age find this type of work interesting, especially if they have a varied background of experience in handwork. They then enjoy experimenting with all kinds of material, especially if they are able to collect some of this from the fields, woods and hedges for themselves.

(5) *Constructive Work in Paper and Cardboard.*—Between seven and eight years of age a short course of lessons in the construction of objects from stiff paper or thin card may be taken. By this time the children should have gained some facility in the use of the ruler; for instance, they should have learned how to hold a ruler, how to draw lines by it, how to measure inches and perhaps half-inches and how to make and use a simple circle marker. This work would have been done partly in the practical number work and partly in the free occupation time.

In the handwork periods the children can now learn how to make many objects of interest to themselves, e.g. boards for race games, book covers for loose-leaf work,

or simple portfolios for drawings, decorated with cut-paper work; or they can make presents for their people at home, such as calendars, simple picture frames, book markers, etc.

From work of this type the children will learn the necessity for care and accuracy, if a successful result is to be obtained.

So far handwork has been treated as (*a*) a means of giving concrete expression to some Centre of Interest, (*b*) as a form of self-expression in the making of a toy or other object, (*c*) as the pursuit of a craft in a simple way; but handwork may sometimes be treated as a Centre of Interest in itself; for example once in the year it is a good plan to direct the children's thought to the idea of using the skill of their hands to make presents for parents, brothers and sisters or other relatives.

The second half of the autumn term is a good time to launch this project, and when it is once started all the time usually devoted to art and handwork should be used for the achievement of the purpose.

Earlier in the term a preliminary discussion may be taken, in which the idea is suggested. Each child can then make a list of the members of its family and say tentatively what it would like to make for each of them. The teacher will look through the lists and make notes of the children's suggestions. During the early part of the term she can then arrange to give the children the basis of experience in those forms of handwork with

HANDWORK

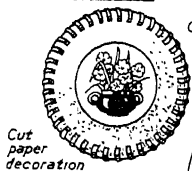
which they are not yet familiar, so that when they start on their project they will be able to work out their suggestions successfully.

The teacher should also contrive to collect or make a variety of simple objects which will serve as suggestive ideas to those children who do not seem to be particularly inventive. No object should, however, be copied slavishly by a child. It must always be encouraged to put something of its own thought into the making of an object, even if it should be only in the method of decoration.

SUGGESTED LIST OF OBJECTS FOR A CHRISTMAS PRESENTS PROJECT FOR CHILDREN SEVEN TO EIGHT YEARS

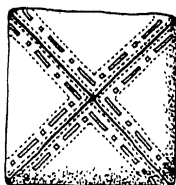
- | | |
|------------------------------|--|
| (1) Stiff Paper or Thin Card | <i>Book Marker</i> , with cut-paper or woven pattern; <i>Jampot Cover</i> , with decoration in paper cutting or stick printing; <i>Blotter</i> , with cut-paper pattern; <i>Needlebook</i> , with woven pattern. |
| (2) Knitting | <i>Ball</i> ; <i>Housewife</i> ; <i>Bag or Purse</i> ; <i>Kettle Holder</i> ; <i>Work Bag</i> . |
| (3) Sewing | <i>Handkerchief Satchel</i> ; <i>Needlebook</i> ; <i>Ironholder</i> ; <i>Pinholder or Cushion</i> ; <i>String Bag</i> ; <i>Coal Glove</i> . |
| (4) Weaving | <i>Mats</i> of varied shapes on card foundation; <i>Bags</i> ; <i>Doll's Scarf and Cap</i> . |

A FLOWER POT STAND
OR MAT

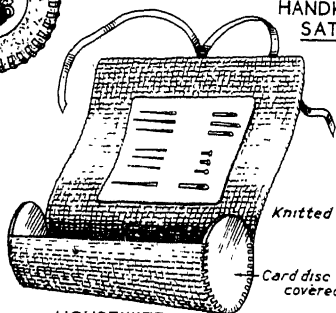


*Cut
paper
decoration*

*Card or wool base
thonged with raffia*



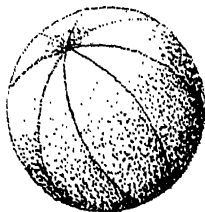
HANDKERCHIEF
SATCHET



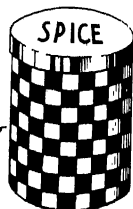
Knitted strip

*Card disc
covered sateen*

HOUSEWIFE

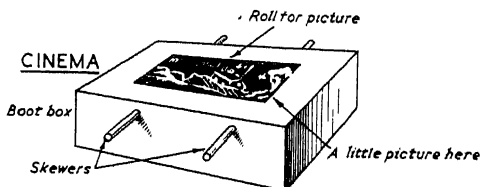


KNITTED OR FELT BALL



*Chequered
paper cover*

DECORATED TIN



Roll for picture

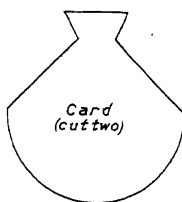
CINEMA

Boot box

Skewers

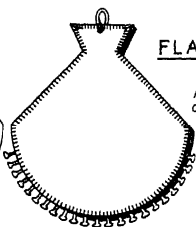
A little picture here

FIG. 12.—ILLUSTRATIONS OF HANDWORK



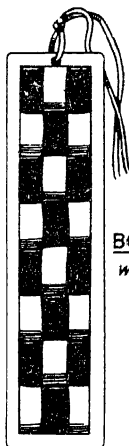
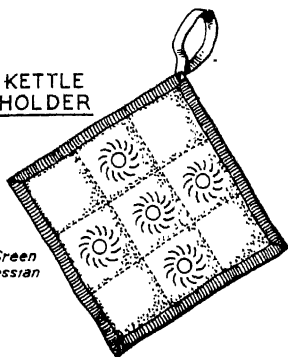
FLAT PINCUSHION

*Finished object
covered with
material and
oversewn*



KETTLE HOLDER

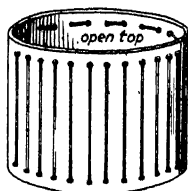
*Green
hessian*



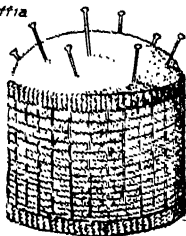
BOOKMARK

Woven paper

*Powder box with woven raffia
or silk covering*



A



B

PINCUSHION

FIG. 12.—ILLUSTRATIONS OF HANDWORK

TEACHING IN THE INFANTS' SCHOOL

- (5) Waste material *Teapot Stand; Decorated Tins; Sets of combined with Doll's Furniture; Large Doll's Bed and some of the Bedclothes; Peepshow; or Cinema; Dominoes* (card); *Board Games; Teetotum Snap*, etc.

SOME USEFUL BOOKS FOR TEACHERS

Tudor-Hart.	<i>Play and Toys in Nursery Years.</i> Routledge.
Holmdahl.	<i>The Rainy Day Book.</i> Nelson.
Catford, N.	<i>Making Nursery Toys.</i> Muller.
Tanner.	<i>Children's Work in Block Printing; Card Loom Weaving; Pattern Making with Cut Paper; Raffia Work.</i> Dryad.
Graham.	<i>Needlework in Education.</i>
Pratt.	<i>Occupations for Little Folk.</i> Dryad.
Roseaman.	<i>Embroidery Stitch Cards I-VI.</i> Dryad.
Polkinghorne.	<i>Toymaking in School and Home.</i> Harrap.
Wadsworth.	<i>Easy Weaving for Little Fingers.</i> Arnold.
Hobbs.	<i>Raffia Work for Juniors.</i> Pitman.

SUGGESTIONS FOR INDEPENDENT WORK

(1) Imagine that you are going to develop a piece of co-operative work in relation to one of the following Centres of Interest:—

(a) Park; (b) Farm; (c) Seaside; (d) Shop; (e) Post Office.

Give suggestions as to size and general plan of the work and some suggestions as to the individual objects that will probably be made by the children.

Mention the various materials that you and the children would have to collect and what use of school stock you would hope to have.

State the age of the children for whom you intend the work.

What help would you expect to give yourself?

(2) Describe with diagrams two pieces of individual construction that you have seen done by (a) a child of six to six and a half years, (b) seven and a half to eight years, either in the home or in school, under your supervision.

(3) Plan a set of six lessons in:—

(a) elementary needlework, or

(b) simple work in stiff paper or thin card.

Give age of children and diagrams to illustrate.

HANDWORK

(4) During a period of school practice you are asked to develop a series of lessons on Primitive Industries.

- (a) From what sources or places would you collect information to help you in planning the work?
- (b) What illustrations would you collect or make for the work?
- (c) What materials would you and the children collect, and what would you expect to use from school stock?
- (d) What would you yourself make before starting the course?
- (e) Plan the first lessons in either pottery, weaving, or basketry, and make sketches of your proposed blackboard illustrations.

CHAPTER VIII

STORY, VERSE AND MUSIC

Story-telling

IF the teacher of young children may ask only one boon from her fairy godmother, it should surely be the gift of story-telling, for it is through story-telling that she will come most closely into touch with the mind and spirit of her pupils.

In an earlier chapter ¹ we referred to the child's love of fantasy play as a form of experimental self-building. In the story hour the teacher has an opportunity of guiding the child's thought in the process of self-building, by giving him material with which to build.

To tell a story well demands imaginative insight; the power to project oneself into the thought and feeling of the characters; to feel sympathy both with the hero and the villain, for the distressed heroine, or the humblest little creature who, like Chicken Licken, makes such a terrible ado about nothing. For this reason, the best story-teller will be one who has preserved something of the wonder spirit of childhood. Yet even the more

¹ Chapter V.

prosaic-minded adult can do much by careful study and preparation to fit herself for the work; and since children are always so generous in their appreciation of our stories, their enthusiasm invariably stimulates us to fresh effort.

Winter afternoons are pre-eminently the time for story-telling, when the days are short, the skies grey and the sun seems to have gone away for ever. Now is the teacher's opportunity to transport the children and herself into the realms of make-believe, where skies are blue, flowers bloom, trees wave in the breeze and birds sing merrily as the hero sets out blithely on the road of high adventure. It is true that we shall have to bring the children back to the world of rather grim reality and send them out, perhaps, into drab and sordid streets, but at least they will go with hearts warmed and spirits refreshed by their brief excursion into a world of romance.

The children's "delight" is, then, the main purpose of our story-telling.

There are some who would deny a child the fairy and folk tales of the childhood of the race, on the grounds that they feed his tendency towards "compensatory" fantasy. In the fairy tale, they say, a child is offered a magical solution of his difficulties in the place of stout endeavour on his own part, while, in some children, the unconscious feeling of being misunderstood or hardly treated is strengthened by tales of wicked stepmothers

or cruel uncles who work their evil will on helpless children.

These criticisms are true, perhaps, of some stories, yet far more often it is the sterling character of the hero that wins him his reward. He is modest, unselfish and courageous; kindly to those who are in trouble, a friend to all animals. He reaches his goal only after considerable effort and, usually, after strange vicissitudes of fortune on the way. Now although in these tales the happenings may be quite fantastic, yet the truth, that courage and kindness and a cheerful spirit in face of difficulties are the marks of the hero, stands out clearly before the children's "spiritual" eyes. It is this truth that the child weaves unconsciously into the pattern of his own life.

Others object to fairy tales because they have a strong element of cruelty and grossness. This also is true of some stories; but there are so many sources from which to select that it is possible to avoid tales which, by their emphasis on cruelty or horror, might wound the spirit of a sensitive and imaginative child.

We should tell fairy tales to children throughout the Infants' School and even in the Junior School. For the younger children we shall need the shorter tales, with simple plot and few incidents—tales of the accumulative type, with much repetition. For the children from six to eight years, with their considerably developed powers of listening, we can choose longer stories adapted from

Hans Andersen, from the Andrew Lang Fairy Books, from George MacDonald or Dasent's Popular Norse Tales.

Between six and seven years, children sometimes ask at the end of a story, "Is it true?" This is probably a sign that the age of complete credulity is passing and that the children are beginning to distinguish between fact and fancy. The question does not necessarily mean that a child no longer wishes to hear a fairy tale, but rather that he feels the need of some standard of judgment which will help him to draw the line between what does or can happen, and what is entirely unlikely to happen in the real world.

We should satisfy the children's minds on this point. Even children of six are able to understand the difference between the facts or happenings of a tale, which may not be true to fact, and that underlying "truth" to which reference has been made above.

Some children, during this stage of search for reality, do show a definite distaste for fairy tales. For these children, in particular, but for all children between seven and eight, we should also tell some form of true tale. There are so many stories of modern times as well as hero tales of former days from which to choose, that we should have little difficulty in finding just the right kind of tale for our purpose. The daily newspapers, for instance, often give brief notices of simple deeds of courage, such as the rescue of a child or animal from

TEACHING IN THE INFANTS' SCHOOL

danger, which could be worked up into a really good plot by a teacher with imagination and a knowledge of children's tastes.

This brings us to the consideration of the characteristics of a good story.

Stories must be simple in form and move with precision towards the climax. They should contain an element of the familiar (for this makes the child feel comfortably at home with the tale), combined with elements of wonder and surprise (for these kindle imagination and keep the mind in a state of delicious suspense). Stories must tell of action and adventure, for children are interested in what people do, not in what they think. Word pictures must be clear and vivid; the language simple yet dignified, and of a quality that will make appeal both to the senses and the emotions.

The use of rhymed verse, so common a feature of our folk tales, should be carefully preserved; for all storytellers are familiar with the look of joyous satisfaction that spreads over the children's faces as they hear sung or chanted, over and over again in the course of the tale, such rhymes as:

"Flounder, flounder in the sea,
Hither come I pray to me,"

followed by the moment of breathless excitement before the deep voice of the flounder replies:

"What does she want *now*?"

STORY AND DRAMATISATION

Above all, stories must not be diluted to what *we* think is a child's mental level, nor should we attempt to point a moral, but rather through our appreciation of the story let it convey its own message.

We need different types of story for different moods and occasions, some for telling and some for reading, *e.g.*:

(1) Folk, fairy and animal tales, such as the "Three Little Pigs," "The Little Red Hen," selected tales from Grimm and Andersen, such as "The Golden Goose," "The Fox's Brush," "The Fisherman and his Wife," "The Frog Prince," "Beauty and the Beast," "The Steadfast Tin Soldier," "The Wild Swans."

(2) Stories that portray family relationships, either human or animal, such as the "Milly Molly Mandy" Tales, the "Ameliaranne" Series, the "Peter Rabbit" Series, "Lives of the Hunted," etc.

(3) Nonsense Tales, such as "The Gingerbread Boy," "Epaminondas," "Teeny Tiny," "The Cat and the Parrot."

(4) Simple myths connected with the seasons, with flowers and festivals, such as "Persephone," "The First Christmas Tree," "Babouska," "The Legend of the Christmas Rose."

(5) Simple hero tales, taken from life, from legend and history.

Dramatisation

Many stories lend themselves to dramatisation, and most children thoroughly enjoy playing their favourite

tales. The suggestion for acting a story should, as a rule, come from the children, but if the teacher chooses the story for dramatisation, it should be one in which there is a good deal of direct speech, plenty of action and a number of parts. A finished production, such as might appeal to a grown-up audience, should never be sought, for if we strive after this the spontaneity of the play activity is certain to be lost.

Such properties as are required should be devised and constructed by the children. They should be of the simplest type and will necessarily be crude, but since the value lies in the thought involved in preparation and in the pleasure experienced by the children when they see the results of their labour, this is much to be preferred to the more elaborate and finished productions made by the teacher.

Occasionally, the children should have the opportunity of giving their little classroom plays to the whole school, for this form of co-operative activity is valuable social training, since each class has, at one time, the opportunity of giving pleasure to the others by a lively and spirited performance—in which clear speaking is a necessity—and at another, of forming part of an attentive and appreciative audience.

Dramatic work with young children can also be a useful preparation for reading, since the children tend unconsciously to absorb the form of the stories as they play them, so that later, when they meet these tales in

their first printed books, memory arouses expectancy of what is to be read—a mental state of great importance for the development of fluent reading.

Puppetry

Children of seven to eight years can learn to make glove puppets, and can then give some of their plays as "Puppet Shows." Humorous stories, with an element of the burlesque, are perhaps most suitable for this type of work, since children's puppets are always grotesque, and as the young players are not very dexterous in manipulating them, the clumsy movements seem to suit a funny tale better than a serious one. This type of acting is especially good for the shy child, for, hidden behind a curtain, he soon loses self-consciousness and learns to speak fluently as he makes his puppets act for him.

Poetry Reading

We should also spend a good deal of time in reading poetry to children, particularly to those between six and eight years. We need to choose verse with good rhythm, simple in form and language, so that clear-cut images arise in the child's mind as the poem is heard.

Even for the youngest child, the little poem should tell a story, however simple, in which the thought is easy to follow, familiar in idea, yet with an element of wonderment, for it is in this way that children learn to see beauty in familiar things.

TEACHING IN THE INFANTS' SCHOOL

At first, the children are entirely dependent upon the teacher's reading, and this means careful study and practice before the lesson. Poems should be re-read often, for by constant listening to the teacher's reading, much of the verse will be memorised. This is the only way of learning suitable for young children and should entirely replace the teaching of verse, line by line, through chorus repetition.

When the children have gained some facility in reading, we can sometimes prepare hectographed copies of a verse or two of a favourite poem, so that each child may build up his own little illustrated anthology of verse. From seven years onwards, the children should have for independent reading some of the simple collections of poetry, in which they will find many poems with which they are already familiar from the teacher's reading. At this stage, many children seem to delight in committing poetry to memory, and this should be encouraged.

We need poetry to suit every interest and experience; for instance, poems about people, such as the policeman, the sweep or the bus driver; poems about the familiar sights of the street; poems about fairies; poems about play in the home or garden, in the country or by the sea.

Every teacher should make her own anthology. For children under six, the nursery rhymes and jingles seem to be preferred, although, occasionally, verse that

tells of some of the special interests and activities of children is enjoyed.

Children of six to eight can have a more varied programme. The teacher will now be able to draw upon such sources as R. L. Stevenson, W. de la Mare, A. A. Milne, E. V. Lucas, Eugene Field, E. Farjeon, Rose Fyleman, Jan Struther, Edward Lear, Hilaire Belloc and Lewis Carroll.

Simple poems about birds, animals and flowers, about the sun and the moon, the wind and the rain, make an appeal to some children, perhaps to all children on certain occasions. Christina Rossetti's "Sing Song" has much that is suitable for children of six to eight, while, on occasion, a verse from Blake, Wordsworth or Tennyson may be read in connection with a nature interest, such as a walk in the park or fields, a wet or windy day, the appearance of the first snowdrops in the garden, or a bunch of daisies or cowslips brought for the nature table.

Between seven and eight, many children show a keen appreciation of nonsense poetry, and selections from Lear, Belloc and Lewis Carroll can then form part of the teacher's treasury of verse.

About the same age, or even earlier, children often become sensitive to the beauty of words. This sometimes comes through story-telling, as when the children revel in very long or mysterious-sounding words, or in such descriptions as "trees that bear delicate blossom

of pink and pearl"; but their delight can perhaps best be satisfied through the melody of words in verse.

This leads to the consideration of the part that music should play in the life of the young child.

Music

"Music may be described as the conventional expression of human feeling by means of Rhythm (that is to say, idealised gesture) and Melody (that is to say, idealised emotional cries)."—CECIL FORSYTH.

These are the two recognised elements in music—rhythm and melody. The former is isolated in two forms in modern music—by the percussion instruments in an orchestra, and by bodily movements as in the ballet. There are, then, three distinct ways in which musical impulses find direct expression—firstly, by the vocal movements of singing; secondly, by the movements of beating a rhythmic pattern upon some resounding object; and, lastly, by the rhythmic movements of the body and limbs in dance.

All these modes of expression have primitive origins. They are natural to the infancy both of the race and the individual. In the infancy of the race we find primitive man developing the earliest form of instrumental music. From striking the hardened earth with his knuckles, he passed to the use of a stretched skin and the tom-tom. Quite early this was accompanied by vague vocal

sounds, developing later into a somewhat shapeless melody.

The rhythmic expression of emotion by bodily movements arises out of the ritual dance—a magic invocation through the miming of the phenomenon desired. A parallel to this is obvious in the development of the child. In his third month, the baby will “join in” with the mother’s crooning with simple sounds of definite pitch. Before he can speak, he will hum phrases or complete tunes simple in rhythm and melodic line, such as nursery rhymes and hymn tunes. The “tom-tom” type of rhythm precedes the dance, for it is made by the infant as he strikes his spoon upon a plate some time before he is capable of using his lower limbs in any form of locomotion. The use of bodily movement to express rhythm takes first the form of swaying backwards and forwards, or of waving the arms. Later, the three-year-old child will take little dancing steps in a tentative fashion in response to music.

In all these ways music expresses emotion, particularly the more vigorous and joyful emotions. Primitive man expresses the exhilaration of battle, the fierce joy of victory. Music is, above all, at this early stage an expression of delight, which, by expressing, enhances it. (“Even the halls of Sion are *jubilant* with song.”)

And it naturally tends to accompany movement; the sailor sings his shanties to the rhythm of his work; the errand-boy whistles the latest cinema air to the move-

ments of his pedals; the child of four composes her own little "air" as she arranges and rearranges the covers and pillows of her doll's pram.

It is the delightful duty of the Infants' School to provide for all these forms of joyful expression. Let us consider first vocal expression. As the infant naturally uses this in imitation of the mother's song, so little children in the nursery class should be given frequent opportunity of *listening* to simple melodies, either sung by the teacher or played simply on the piano, fiddle or pipe. The choice of music is of fundamental importance. Much simple music is great music, notably the folk tunes, which appeal so strongly to the young listener. Vocal expression will be born *spontaneously* from this listening: as in the rhymed refrain of a fairy story, so in an oft-repeated tune, the child cannot fail to take an active part. This method of learning to sing should be maintained throughout the Infants' School and should indeed be the only method of learning songs.

Secondly, we have the "tom-tom" form of rhythmic expression. This can find delightful satisfaction in the percussion band. The foundation is afforded by drums, assisted by bells, triangles, cymbals and tambourines. Piano, dulcimer or voice may supply the air.

The expression of intense and absorbed enjoyment is sufficient evidence of the wholly natural and instinctive joy children of five and a half to six years experience

when playing in the "band." They have, too, a healthy feeling of corporate activity, and the leader—an office which is, of course, held by all in turn—finds a happy outlet for self-assertion and develops a purposeful air which indicates real emotional control.

The spontaneous response of the town child to the street organ is fully recognised to-day in what is popularly called in our Infants' Schools "Rhythmic Work." Shoes are removed, the green baize carpet is spread on the hall floor, and a spirit of eager anticipation shows in the movements of little feet, whose mobility is no longer restricted by heavy shoes. Again, it must be remembered that though our purpose is rhythmic movement, this movement is no more than the expression of the music heard, and that the music should be good.

Fortunately, there is a boundless supply, as in Schumann's *Album for the Young* and *Scenes of Childhood*, in the collection of airs by Martin Shaw, entitled *Song Time*, and in many volumes of national songs of all countries.

The joyous spontaneity of all these modes of expression is in startling contrast to the typical work of thirty years ago, with its stereotyped "action" songs and its formal training in the tonic sol-fa notation. To pioneers such as Mrs. Murray MacBain, Miss Marie Salt, Miss de Rusette and others, we are indebted for this movement towards greater freedom in the musical training of young children.

TEACHING IN THE INFANTS' SCHOOL
SUGGESTIONS FOR READING AND STUDY

STORY-TELLING

- Bone, W. *Children's Stories and How to Tell Them*, chaps. i-vi.
Shedlock, M. *The Art of Story-Telling*, chaps. i-vi.
Bryant, S. C. *How to Tell Stories to Children*.
Cather, K. D. *Educating by Story-Telling*.
(See Appendix for Sources for Story, Poetry and Music.)

MUSIC

- Davies, M. G. *Music Making*. U.L.P.
De Rusette, L. E. *Music under Eight*. Curwen.

CHAPTER IX

LEARNING TO READ AND WRITE

IN an earlier chapter we have outlined the manner in which active intelligent children may often acquire, through their classroom activities, a vocabulary of printed words and phrases which forms a useful background for systematic work in learning to read.

By the age of six most children are quite anxious to learn to read. It is the teacher's duty to help them to acquire the mechanics of the process as quickly as possible, so that they may spend a good deal of time during their last six months in the Infants' School in reading simple story books.

Brief Outline of the Psychology of the Act of Reading

Learning to read involves the acquisition of an extremely complex habit, and there are a good many real difficulties to be overcome before a child acquires this skill. To know something about the psychology of the reading process should help us to make the child's task easier.¹

¹ See Huey, *Psychology and Pedagogy of Reading*, pp. 15-50.

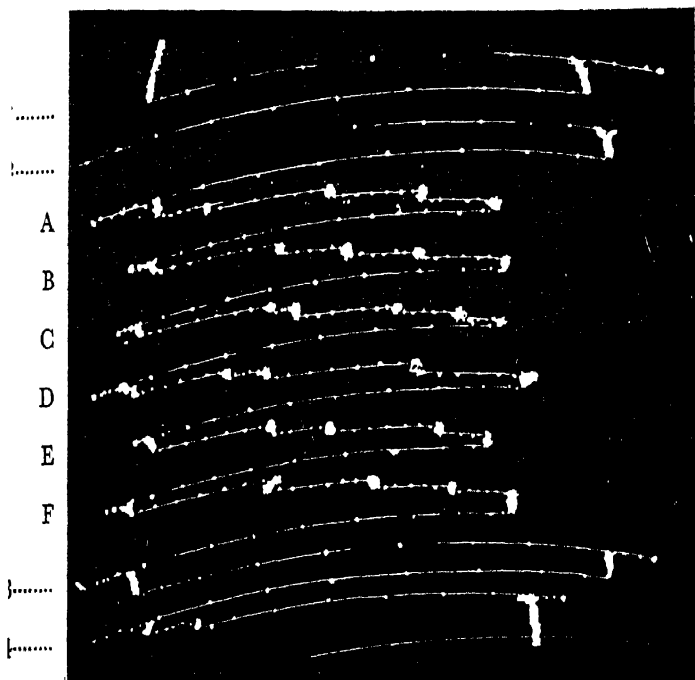
Let us think first of the adult reader. If you place a mirror upon the table beside the book that a fellow student is reading, you will see that the eye travels over the page with a quick, jerky movement. By means of delicate apparatus, psychologists have been able to record this movement, and the pattern is then seen to resemble the accompanying diagram (see illustration).

An experienced reader makes from three to five pauses for a line of average length, but when the reading material is unfamiliar in form, as, for example, in reading a foreign language, or when the ideas are difficult to grasp as in reading, shall we say, a psychology book, more pauses will occur in each line, and there will often be backward or regressive movements to enable the eye to take another peep at a word or phrase.

Now, if you watch a child of six to seven reading a simple story book, you will see that there are many more pauses for each line, that the pauses are longer and that there are more regressive movements. The child has not yet acquired regular eye movements.

Since facility in reading depends, in the first instance, upon rhythmic eye movement, we shall have to consider later whether any of our practices in teaching tend to retard the development of regular movement of the eyes.

Psychologists are of the opinion that no clear visual



THE ILLUSTRATION SHOWS THE MOVEMENTS OF THE EYE IN READING SIX
LINES OF PRINT.

The eye first made two free movements each way (1 and 2), only the beginning and end of the lines being fixated. This was followed by the actual reading of the text, lines A-F. The large dots represent pauses of the eye, while the curved lines between the dots show the movement of the eye. At the end of each line the eye makes a quick backward return sweep and the process is repeated. Lines 3 and 4 represent two free forward and backward movements similar to those made at the beginning.

impression can be received while the eye is moving, so that perception of the words and phrases must take place during the pauses. What does this mean? It means that when a good reading habit has been established, the eye is able to perceive as much as three or four words at a single peep, of an average length of $\cdot 19$ of a second.

Reading, therefore, does not take place, as so many people believe, by means of a synthesis of each letter of a word, but rather by the apprehension of the general shape or pattern of words and phrases. This has an important bearing on our choice of a method for teaching reading.

Many interesting experiments have been carried out to discover exactly *how* words and phrases are recognised. It appears that recognition takes place either through the apprehension of the total length and shape of the word, or through some characteristic feature of it.

You must often have noticed that the words best remembered by children are long words, or words with a number of tall letters, *e.g.* c . pb . . . d, while short words, such as "no" or "on," with no particular character, are confused.

Ability to recognise the patterns of words quickly and easily appears to be dependent upon an innate specific ability. Some children possess this power in a marked degree; they are able to perceive both the general

form of a word and its significant parts with ease.¹ These children usually learn to read early and very quickly, and require a minimum of help from the teacher, since they develop their own methods of word analysis.

At the other end of the scale are children who seem to be almost lacking in perceptual ability for word forms. They will only learn to read with difficulty and will need every skilled device that a teacher can employ to help them along the road.

Finally, we must consider how we learn to comprehend the meaning of what we perceive on the printed page. While you are reading this page, you will notice that the movement of your eyes along the lines is accompanied by a mental saying of the words; in fact, you both say and hear what you are reading "in your head."

Psychologists tell us that the function of this inner speech and hearing is to facilitate comprehension of meaning. If you think for a moment, you will see that this is a reasonable explanation, for a child first learns to understand language through hearing and speech. It is only natural that when he is learning to read, he should tend to translate the visual impression from the printed page into the forms through which he gained his first ideas of meaning.

¹ Gates, A. I., *The Psychology of Reading and Spelling with Special Reference to Disability*. Teachers' College, Columbia, No. 129.

Most people make use of inner speech when they are reading, although when the book is simple and familiar in form, they are hardly aware of this; when, however, the material is difficult, then inner speech seems to be loud and insistent, and can be heard almost as clearly as if the words were uttered aloud.

It is this need to *hear* what they are reading that causes children, when they are first beginning to read a book by themselves, to murmur the words as they read. We should not attempt to stop them from doing this, as, given plenty of opportunity for practice in reading independently, this audible speech is soon replaced by inner speech.

From this very brief outline of the psychology of the reading process, we can draw some practical conclusions. Since rhythmic eye movement is so important, we must take this into consideration when we are selecting reading books. We should see:—

(1) That the lines are short (3 to 4 ins.) and of uniform length, *i.e.* that they begin and end approximately at the same point.

(2) That the pages are unbroken by pictures. Authors and publishers, in their endeavour to make a page *look* attractive, still far too often introduce pictures into the middle of the text. Pictures should be either at the top or foot of the page.

(3) That the print is of suitable size and stands out clearly from the background.¹

¹ See Davies, M. B., *Hygiene and Health*, chap. xxii, p. 264.

LEARNING TO READ AND WRITE

These same points should be borne in mind in the preparation of home-made reading books, reading cards and other types of reading occupation.

Some of our reading *practices* tend, also, to hinder the formation of fluent eye movement:—

(1) While a child is reading aloud a passage of continuous material, he should not be expected to “build” or “analyse” an unknown word. This should be quickly supplied by the teacher, so that as far as possible the rhythmic movement is unbroken. At the end of the page or paragraph, the teacher can spend a moment or two in helping the child to analyse the word, so that at a future time he may perhaps be able to recognise it. Children must, of course, learn to read more difficult material, but preparation for this should be made in separate word-study lessons, suggestions for which will be given presently. The child who makes many pauses in reading is obviously not ready for a book and will be much better engaged with other types of reading activity.

(2) To assist in the formation of good eye habits, we should, for a long time, use *easy* continuous material. It is much better for a child to read a number of easy books than to be coached laboriously through a difficult one. The most important points in the selection of the first reading books are that they shall be interesting and familiar in ideas, simple and natural in language, shall have a good deal of repetition and, finally, that the bulk of the words should be already familiar through previous exercises.

(3) Allowing a child to point as he read also tends to delay fluent eye movement. Even the device of using a slip

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of paper is a practice of very doubtful value, since it hinders the rapid return sweep of the eye and prevents it from travelling in front of the voice.

The other point of interest in connection with the teaching of reading is the way in which words and phrases are perceived. Since words are recognised largely by their shape or pattern, we should begin our teaching with words that have distinctive patterns, and avoid teaching together words that are similar in appearance—a method used in so many phonic primers.

Again, since associations of meaning undoubtedly play a large part in stimulating recognition, we should always begin with material that is based on the child's interests in school or at home.

On both these grounds, a method that uses words and sentences as the unit of teaching is to be preferred to one that starts with the letter or sound, for letters, with their general similarity of form, tend to be easily confused; while, in isolation, they have no meaning for a child.

PRACTICAL SUGGESTIONS FOR TEACHING READING

We are now ready to consider the practical details of teaching children to read.

The Infants' and Nursery School Report recommends

that little or no formal work in reading should be given before the age of six, although exceptional children who develop an interest at an earlier stage should be allowed to pursue this interest.

Against this recommendation, we have to balance the accepted tradition of English elementary education that children, when promoted from the Infants' School at an average age of seven and a half, should already be reasonably well equipped with the mechanical elements of the "Three R's."

Are these two ideas incompatible? If the teaching of reading is to be postponed to a later age in favour of the more valuable play experiences and activities suggested in the earlier chapters of this book, will the standard of reading necessarily be lower? The answer seems to be that the average standard need not be lower and it may be higher, but we must no longer expect a *uniform* standard of attainment.

Before discussing methods of teaching, it might be wise to define in some detail the degree of attainment that a class of forty children of seven and a half might reasonably be expected to have reached.

The children of average ability will usually be able to read a simple continuous story with fluency and pleasure to themselves. They will also show some skill in dealing with unknown words.

The good readers will have considerably more skill and fluency, and will generally be able to read a story

book such as normally a child of nine reads, and will be able to discuss it. They will also show superior ability in attacking polysyllabic words.

Below the average, there will generally be a number of children whose actual accomplishment will be only quite a simple book (about Book II of any of the modern Infants' Readers). Their progress is to be regarded rather in terms of the interest they show and the effort they are making.

In addition to this lower group, there will often be two or three children—promoted on account of age—who will have made little or no start. These will usually be the really dull children with a *mental* age perhaps of five or five and a half years.

If the two last-named groups of children must, for various reasons, be transferred to a Junior School before they have acquired efficient reading habits, it is extremely important that they should have suitable reading books and really intelligent teaching in their new school, so that as far as possible there shall be no loss of the little skill that they have acquired in the infants' stage.

Summary of Work Preparatory to Reading

In an earlier chapter ¹ we have given, in some detail, an account of activities from which interest in reading may arise. At this point, we will summarise these:—

¹ Chapter III, pp. 60–67.

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(1) Before a child attempts to learn to read, he should speak clearly and fluently. The free conversation, speech training, rhythmic work and verse speaking of the earlier period help to develop good speech habits.

Hearing stories, well told and well read, is another important preparation for reading. To hear a tale over and over again increases a child's vocabulary, and familiarises his mind with the form and content of many of the stories that he will soon read for himself. Dramatisation of the stories is also a definite help.

A library corner, in which the children may brood over books, is an important feature of the preparatory stage, since by this means the children gain unconsciously the right attitude towards books and reading.

(2) In keeping their daily diaries and recording, through pictures, interesting experiences, opportunities arise for writing words, phrases and sentences. These are afterwards read and re-read until they are known by heart. (See illustrations of this type of material in Chapter III.)

(3) Towards the end of the five to six year old stage, group activities, group games, the nature calendar, the daily news sheet and the nature table all offer opportunities for the children to acquire a store of names, phrases, commands and statements, which many of them are able to recognise at sight.

Systematic Work

When the children first begin systematic work in reading, it is a good plan to deal with the subject intensively. This does not mean that we should have a longer lesson with a reading book, but rather that the

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child's interest should be directed towards reading at other times of the day and in connection with other pursuits, and not merely during the scheduled reading period.

In planning the work, we should arrange for:—

(1) Group lessons with a reading book, for about ten to fifteen minutes daily.

(2) Independent work, to give practice on what has been read.

(3) Work to be done in connection with centres of interest.

(4) Group or class "word-study" lessons.

If systematic work does not begin until all the children have acquired the background of knowledge suggested above, the choice of a method for this stage is not of such very great importance.

Some teachers will prefer to start by the use of the sentence method of teaching, on the ground that it follows on directly from the work of the preparatory stage. If this method is used, some form of word analysis will usually be found necessary before the end of the Infants' School stage, to equip the children with the ability to deal with difficult unknown words when reading by themselves.

Some teachers will prefer to start with the Phonic Method, on the ground that it enables the children to tackle unknown words right from the start. If this

method is used for the actual reading lesson, then it should be supplemented at other times during the day by work of a more natural, more informal character arising from projects and different kinds of reading occupations. (To be described later.)

Finally, some teachers will combine the two ideas, using sentences for the first continuous work, but, at the same time, giving definite attention to phonics in a separate word-study lesson.

Our choice of method should really depend upon the type of child with whom we are dealing. Intelligent children will learn easily by any method, but as a rule the sentence method produces the quicker result, since many of these children will be endowed with good ability for word discrimination and will make their own analysis of words with but a few hints from the teacher.

The really slow children *must* learn by a direct method, *i.e.* by a method which associates names with objects and pictures; sentences with some activity. For these children a phonic method is slow and disheartening, since they not only confuse the letter forms, reading "d" for "b," and so forth, but are also very poor at building up words from sounds, which is, of course, the fundamental principle of the phonic method. The average group of children will probably learn best by a method which combines sentence work with definite attention at some stage to phonic analysis.

Suggestions for Planning the First Group Lessons

Let us imagine that a teacher is starting work with a class of approximately forty children who have had the preparatory training outlined in the earlier chapters.

Her first task is to discover the extent of the children's store of words and sentences. For this purpose she can take a few class revision lessons, using flash cards with printed commands and questions. The sentences should be graded in difficulty; some very simple, so that all the class may enjoy the activity, some longer and more difficult, to enable the teacher to select the more advanced group.

As a result of this little test, the teacher will divide the class into, perhaps, three groups, *e.g.* a small, top section of six or eight children, a large middle group, which at first can work together but will soon divide into sections, and a group of, perhaps, ten or twelve children who have acquired only a very small stock of words and sentences.

Groups I and II can start work with the same simple reading book, although we shall expect Group I to make much more rapid progress than Group II. There are a number of little books suitable for a first reader. (See Book List, Appendix III.)

While the rest of the class is engaged with some form of individual occupation, *e.g.* number occupation,

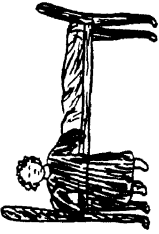
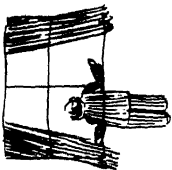
<p>You have just read a story about three children.</p> <p>The boy's name was <u>Tom</u></p> <p>The girl's name was <u>Joan</u></p> <p>The baby's name was <u>Ann</u></p>	<p><input type="radio"/> <input type="radio"/></p>	<p>Would you like to draw some pictures?</p>
<p><u>Questions.</u></p> <p>Were Joan and Ann asleep? <u>Yes</u> No</p> <p>Was Tom asleep? <u>Yes</u> No</p> <p>Was the sun looking in at the window? <u>Yes</u> No</p> <p>Did Joan want to get up? <u>Yes</u> No</p> <p>Did Tom want to get up? <u>Yes</u> No</p> <p>Does Joan like to go to school? <u>Yes</u> No</p> <p>Did you like the story? <u>Yes</u> No</p>	<p><input type="radio"/> <input type="radio"/></p>	<p>Draw a picture of Joan getting out of bed.</p>  <p>Draw a picture of Tom looking out of the window.</p> 

FIG. 14.—A DOUBLE PAGE OF A CHILD'S WORK BOOK BASED ON HAPPY WAY TO READING, BOOK 1.

simple reading games of a type with which the children are already familiar from their experiences in the earlier stage, the teacher may give Group I its first lesson with a book. She will give the children some idea of the story in order to arouse pleasurable expectation, and then the children will open the books. We can imagine this to be *Happy Way to Reading*, Book I. The picture on the first page will be discussed, and the teacher will read the first two-page incident, the children following her reading.

The pages will then be re-read, either by individual children in turn, or by the whole group together, or by a combination of these methods. As there is a good deal of repetition and most of the words will already be familiar to the children, little difficulty will be experienced in reading these pages.

The children should then go back to their seats and work at some kind of individual occupation which will provide opportunity for the revision of the words and phrases they have just read. This may be done by means of "work" books, which will consist of pages prepared by the teacher of hectographed material, *e.g.* pictures with questions to answer, and directions for something to do. Day by day the children will build up a loose-leaf "work" book which is, as it were, a running commentary on the pages of the printed book. (See Fig. 14.)

As soon as the top group have settled happily to their

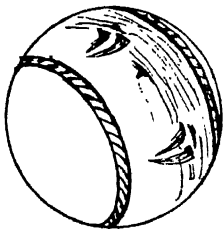
<p>Our Ball.</p> 	<div style="display: flex; justify-content: space-around;"> <div>o</div> <div>o</div> <div>o</div> <div>o</div> </div>			
<p>This is our big ball. It is red and blue. It has a picture on it. We play with our ball.</p>				
<p>Colour your ball.</p>				
		<p>Tom tossed the ball. Draw Tom.</p>	<p>Joan caught it. Draw Joan.</p>	<p>John bounced the ball. Draw John.</p>
				<p>Mary rolled the ball to Harry. Draw Harry.</p>

FIG. 15.—A DOUBLE PAGE OF A CHILD'S "HOME-MADE" READING BOOK. Size of page $7\frac{1}{2} \times 8$ ins.

independent work, the teacher is free to take a second group lesson. She may decide to work with the least-advanced group.

Work for these children must be of a really active type; lessons must be short, ten to fifteen minutes, and carried through in a brisk spirit with plenty of fun.

The first five minutes should always be given to revision of action sentences already known by the rest of the class. Then ten minutes could be spent in helping the children to prepare the sentences for a home-made reading book about some of their play activities. As a ball is one of the child's favourite playthings, we might start with this. A ball will be taken from the play cupboard, the teacher and the children will talk about it—its shape, colour, what it is made of, what you can do with it, etc.

Two or three sentences will then be suggested by the children and written by the teacher on the blackboard. These sentences will be read, in a natural way, once or twice, and a little time spent in finding and underlining individual words, *e.g.* "round," "red," etc. The whole will then be re-read by all the children together.

This group will then resume its individual occupation.

The next day, each child in this group will have a hectographed sheet containing the blackboard sentences of the previous day, together with directions for something to do. (See Fig. 15.)

In their second group lesson, the children can suggest

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sentences describing their activities with the ball, *e.g.* "Tom tossed the ball." "John caught it." The use of the children's names is a great stimulus to interest in reading, for every child likes to find its own name in print.

Week by week, then, these children will build up their own home-made reading books in a loose cover. Books such as these are much cherished by the children, are read over and over again, and often stimulate interest in reading when all other means have failed.

After the children have made one or two little books in this way, they will be ready for a simple printed book which deals with the same ideas and has approximately the same vocabulary, *e.g.* *Happy Way to Reading*, Introductory Reader.

Finally, if time allows, the teacher will take a lesson with the middle group, or, alternatively, they will be her first care on the following day.

Group II can use the same book as Group I, but in the case of this group it will usually be necessary to prepare the first few sentences on strips of cardboard (this must, of course, be done before the lesson). These sentence strips are presented one at a time, read by the children with the teacher's help, and then arranged in order on the blackboard. A little time should be spent on the recognition of separate words, *e.g.* "window," "sun," "bed," "children." The children will then open the books and find the same sentences on the first

page. They will read the sentences aloud to the teacher as the conclusion of their little group lesson. They will then have "work books" similar to those of Group I.

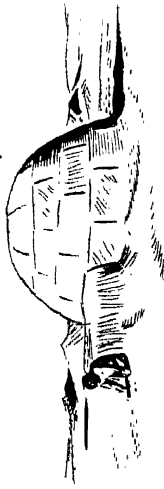
By the end of the first week the teacher will have started all the children on their new work. When the simple daily routine is established, the teacher will have more time to assist children individually with their reading, so that progress will be rapid.

In a fortnight, Group I will probably have finished reading their first book, and will then start a second book with the teacher. It is often a good plan, however, to give the children an opportunity of re-reading their first book by pairing each child in the top group with a child from Group II, reading the same book, but not so proficiently. In individual work time, the pairs can work together. In this way the slower child receives help with words of which he is not yet sure, while the quicker child is having practice in reading familiar material without boredom. Partnership work of this kind can be used for all kinds of reading occupation.

Group I should also have access to a library shelf of little books, *e.g.* *First Steps for Tiny Folk*, which give opportunity for revision of the vocabulary of their first reader, in a new setting. (See Appendix III.)

It may perhaps be felt that this group method of teaching is difficult to start and keep going, and that the preparation of hectographed material involves too

An Igloo Home.



An Eskimo creeping out of his snow house

A house made of frozen snow sounds as if it would be very cold to live in, but it is quite warm when you get inside.

Do you know how it is made?

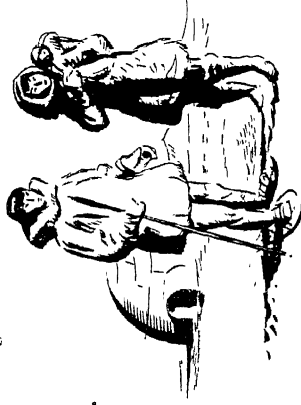
The Eskimo father gets his friends and his family to help him.

First they mark out a circle on the ground or really on the snow, because in winter the ground is covered with snow.

Then they cut big blocks of frozen snow and

build them up round the circle, until their home looks like a basin upside down. The window is made of skin or sometimes of ice. It does not matter very much that you cannot see through very well, because it is very dark in Eskimo land all the winter.

Last of all they make a tunnel for a doorway, through which they have to crawl on their hands and knees



Here are the Eskimo father and mother. Can you see the baby?

FIG. 16.—PAGES OF A CHILD'S HOME-MADE READING BOOK, ON HOMES IN OTHER LANDS

TEACHING IN THE INFANTS' SCHOOL

much work for the teacher. Group teaching is not difficult if it is thoughtfully planned. We must see, in the first place, that the sections of the class not working with the teacher are always profitably occupied with some form of individual work. Then the amount of time to be spent with each group should be planned at the beginning of the week. The group lessons should always be quite short and stimulating to real effort and concentration on the part of the children. We should always send them away feeling that they would have liked a longer lesson.

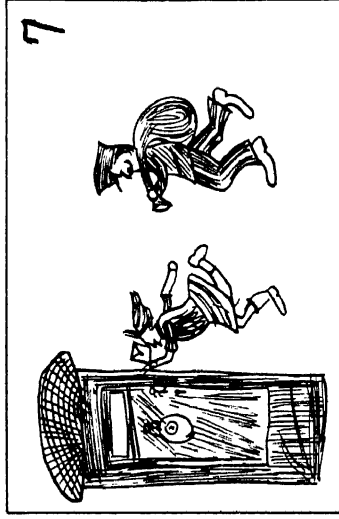
The preparation of reading material need not involve a great deal of labour for the teacher. She must, of course, write the first copy of a "work" sheet, but she should quickly train the children to assist her in the task of taking off the duplicate copies on the hectograph. A sensible child of six does this quite as well as an adult and thoroughly enjoys doing it.

The group lessons, supplemented by independent work, represent only a small part of the actual reading experiences in the classroom. Other opportunities for developing skill arise in connection with project activities. For types of material, reference should be made to the chapter on Projects. (See also Figs. 3 and 4.)

Individual Occupations in Reading

Apart from the "work" sheets based on the reading books, a great variety of really fresh and stimulating

Draw a pillar-box. 7
 Draw a little girl running
 to post a letter.
 Draw the postman coming
 to get the letters.



12
 Draw a picture for this verse:-
 If you make a daisy chain
 And hang it on a tree,
 Elves will have it for a swing.
 You just try and see.

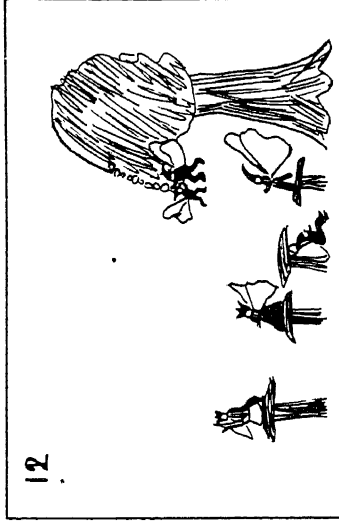


FIG. 17.—EXAMPLES OF "READING AND DRAWING", INDIVIDUAL OCCUPATIONS.

individual work can be devised by the teacher to give additional practice in reading.

All children like to draw, and this impulse can be used to develop comprehension in reading and careful attention to detail. For children of six and a half to seven years we can prepare series of cards with short descriptions of objects, scenes, etc., which the children draw.

The method of use is as follows:—

The child selects a card from a series, reads it, and then draws what he is asked to do in a plain paper booklet, numbering the illustration with the serial number of the card. (See Fig. 17.) From time to time the teacher looks through the child's book and checks his drawing, to see if he has done all that was required. The children enjoy using these little cards so much that they often choose them as writing exercises, copying the script into their books and drawing the illustration below.

The same idea can be developed for the younger children of this age group, as a kind of Lotto game, either for practice in recognition of objects in the "shops," or people in the "street." The puzzle element in this type of exercise is a great stimulus to mental activity.

We can also invent numerous games of the Snap and Lotto type to be played by a group of children as a means of developing a habit of rapid recognition of words and phrases.

Word Study

A short time should be given daily to the study of words. This might well come at the beginning of the afternoon session. It should be carried out in a play spirit, *i.e.* the children should think that it is real fun to learn to analyse and synthesise words.

Attention should first be concentrated on whole words. Words occurring in the reading books can be printed on cards and used as flash cards for quick recognition.

Collections of words connected with some idea, *e.g.* the food we eat and drink, the goods sold by various shopkeepers, can be made. Lists can be printed on the blackboard, games for rapid recognition can then be played, and, finally, the children can copy the words into their word books, *i.e.* a kind of picture dictionary.

During the individual work period, the children can practise themselves in reading the words, so that they may be ready for the teacher's test at the end of the week.

Word analysis can be introduced by a game which the children call "Finding little words in big words." We start with words with which the children are already familiar, *e.g.* snowdrop, pansy, cabbage, tulip, strawberry. With a little help the children quickly learn to see words they know in these longer words, *e.g.* "snow"

TEACHING IN THE INFANTS' SCHOOL

and "drop" in snowdrop. The children are then invited to bring to the lesson long words that they have found either in books at home or in school. To these lists the teacher also contributes, taking care to include some of the polysyllabic words that will shortly be met in the reading books.

The following is a list of words brought by children of seven:—


yesterday,	comfortable,
panorama,	punishment,
carpenter,	Aladdin,
caterpillar,	scrambled,
attendant,	pantechnicon.


This is a very good type of analysis work, since it helps the children to see both the total form and the most useful parts for analysis.

Later on, just before they leave the Infants' School, the more advanced children will be able to attack polysyllabic words where the parts do not make known words, although this type of work properly belongs to the Junior School stage.

For children of good average and good ability, this type of word work will probably be sufficient, since it puts them on the road, and they will soon learn to make their own analyses of difficult words.

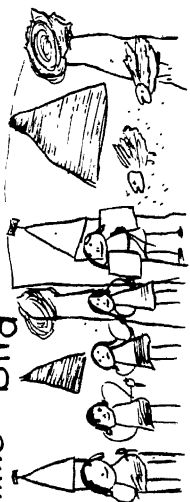
For children of lesser ability, we may need to use some phonic drill. Children who have had speech training

Wednesday May 24th
 It is Commonwealth Day
 to day 

Friday May 26th
 We have a farm and It is
 a lovely farm and We have
 a house, too. 

Monday March 7
 I went to a play last
 night and it was called
 the rose in the play I

was a fairy and a
 little bird



AGE 6 YEARS 10 MONTHS.

AGE 7 YEARS 4 MONTHS.

FIG. 18.—EXAMPLES OF CHILDREN'S DAILY NEWS BOOKS.

lessons should have little difficulty in learning the short vowel sounds and the sounds of the consonants, so that only a very little time should be spent on this part of the work.

Work with sounds should always start from words already known as wholes, *e.g.* the teacher might write a list such as this:—

door, duck, dog, desk.

The children will notice that all the words begin with the same letter. The sound “d” is then isolated from the rest of the word. Words are copied into word books, a page being reserved for each initial sound. Short vowel sounds are taught in the same way.

A brief course of word building may then be taken if desired, but very little time should be spent on this, as the most important parts of phonic work are the consonant and vowel blends, *e.g.* br, ph, fl, oa, ea. The study of these should be carried out in the same way, *i.e.* we should always start from known words in which these phonograms appear.

Word-study lessons can, if desired, be supplemented by a variety of “phonic” word-building games, which may be obtained from any publishers of kindergarten material.

Learning to Write

Writing and reading should go “hand in hand” in the Infants' School. As in reading, there must be a

preparatory stage before any systematic work in writing is commenced. The act of writing involves muscular co-ordination of eye and hand, and memory of the form of the letters.

Montessori's suggestion that these elements should be acquired separately has much to recommend it, although we may not wish to follow her method in detail.

Drawing and painting in the nursery class develops the muscles of the shoulder and arm, and the use of a tool for the production of large movements. This training must precede any attempt to develop the finer muscles of the hand and fingers for writing with a pencil.

In the five to six year old stage, training can be directed to the acquisition of skill in the use of a more precise writing tool, such as charcoal or soft, thick black lead pencil.

Among the apparatus and material for this stage, there should be the Montessori plane metal insets, cardboard or wooden templates of animals, fruits and objects—bold and simple in outline—and also templates of letters and figures. With this material a variety of interesting occupations can be devised, through which a child will gain the muscular control necessary for writing.

We might, for instance, suggest that he should make a picture book of animals. We supply him with a booklet made of kitchen paper, and show him how to draw

round a template of his favourite animal, *e.g.* a dog. He can then fill in the outline of the shape with a coloured or black pencil, using short even strokes to fill the space. His first efforts will be rough and untidy-looking from an adult's point of view, but his own pleasure in the result will carry him forward until he achieves a considerable degree of skill in filling in the outline with even strokes.

Side by side with the drawing, we can show the children how to make "dog's" name with flat wooden letters. These are placed below the drawing, and the child draws round each in turn and fills in the outline as suggested above.

By the time he has completed his picture book, he will not only have gained in muscular control, but will also have made acquaintance in a natural and informal manner with the names and shapes of a good many letters.

For many children plastic material is a preferred mode of activity. We can sometimes suggest objects to be modelled, and then show the children how to model the names of the objects by laying out little rolls of plasticene in the form of the letters. Making their own names in plasticene is another favourite occupation of children.

Motive for using this newly acquired muscular skill arises through the simple centres of interest, such as the preparation of labels, shop tickets, posters (see Plate VI)

and attractive notices. In writing these labels, the children should copy the word, phrase or sentence as a whole, from the teacher's copy (previously prepared), for, at this stage, writing is merely another form of drawing, *i.e.* instead of drawing a picture of a cake, the child draws its name.

The scribble drawing of the nursery stage can easily be directed towards the production of rhythmic patterns. Using large sheets of kitchen paper, charcoal and tempera paint, the children will often produce patterns of real beauty. The foundations of these rhythmic patterns may sometimes be the letter forms, as suggested by Miss Richardson, but we should beware of the exclusive use of one type of element lest the work tend to become stereotyped and mechanical. (See Plate VII.)

Systematic Work

At the age of six or six and a half, we may wish to give the children systematic practice in writing. Since they must eventually learn some form of cursive writing, it is worth while considering the type of script that we shall give them at this stage. It should be bold and simple in form and of a type that, under the speed conditions of the later stages, will retain its legibility and pleasing appearance. The script suggested by Miss Marion Richardson meets these requirements.

Up to the age of six there seems to be no doubt that the little writing that a child does should be of a

print-script type, since this goes better with the early attempts to interpret printed material.

At six or six and a half we can quite well introduce the children to a cursive style (provided, of course, that this style will be carried on in the Junior School), since cursive writing undoubtedly enables the child to write more easily and rapidly, and this is a great help in the free writing work that should normally be done in the last six months of the child's Infants' School life.

Tools and Paper

The choice of a writing tool is really important, for the child needs a tool that will help him on his way. The thick black lead pencil suggested above is suitable for most of his work. In the Junior School this should be followed by the use of a broad nib, not by the almost pin-pointed nib that is the cause of the weak spidery-looking writing so common in our schools.

Much discussion has ranged round the question of lined or unlined paper. In earlier days it was the custom to provide three-lined paper in the Infants' School, and to these lines every child had to accommodate his writing. This was undoubtedly a mistake. The "swing of the pendulum" resulted in the use of plain paper with no guiding lines at all. It would seem that this, too, is not really satisfactory for young children.

As we have said, the act of writing is complicated, involving not merely the formation of letters and words,



PLATE VII A "writing" pattern made by a child of $5\frac{1}{2}$ years.

but also the horizontal movement of hand and arm across the page. While the child's attention is focused on the actual writing of the words, it is difficult for him to keep in mind at the same time the regular horizontal alignment. We can save him unnecessary fatigue by providing paper ruled with single guiding lines at a distance of $\frac{7}{8}$ inch to 1 inch apart. The child should not be required to write *on* these lines; their purpose is merely to act as an unconscious guide in the formation of the horizontal habit. When this is once established, lined paper can be discarded.

Method

Just as in reading we start systematic work with a whole sentence—however short this may be—so the first writing should be of whole sentences, not a practice of isolated elements. The method used in the Decroly classes¹ will be found most successful, if we have the patience to wait for the result. A thought suggested by the children and arising from some interest of the day is written by the teacher on the board—the latest findings of the Industrial Research Council suggests that the board should be yellow and the writing in blue chalk;² the children observe the teacher's copy for a few seconds; it is then covered, and the children write the sentence from memory. A study of the chapter on

¹ *The Decroly School*, pp. 57–92.

² W. D. Seymour, *Improving the Blackboard*.

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Reading and Writing in *The Decroly Class* will prove helpful to those who are unfamiliar with the method.

At first we should have a daily lesson of ten to fifteen minutes, but this should be dropped as soon as the children have acquired a reasonable degree of skill. Its place can be taken by free writing of stories and descriptions of project activities, with perhaps one or two lessons devoted to handwriting as an "art," directed towards some special purpose, such as the making of individual illustrated anthologies of verse, in which the child will feel that really good handwriting is an important feature.

Free Writing

Almost all children between the ages of six and eight show a tendency to write spontaneously. This interest should be fostered, for this free work is certainly preferable to the type of stilted written composition of an earlier day.

Spontaneous writing may arise in connection with the keeping of "Daily News" or "Nature Diaries" (see Fig. 18), or in relation to a description of work done in connection with a Centre of Interest, or in relation to a child's desire to explain a spontaneous drawing, or finally—when some skill in the mechanics of writing has been acquired—an impulse to write quite a long story or description.

The first efforts, at about six years of age, will consist

LEARNING TO READ AND WRITE

perhaps of a single sentence, accompanying an illustration. (See Fig. 19.)

Gradually sentences become longer and more connected in thought, until by the age of seven and a half years many children are capable of writing quite a long story. (See Fig. 20.) But even this vivid and satisfying activity may have some degree of danger, for the strain on the eyes and the muscles of the fingers and hand is very great when the child is writing a long story. Fatigue shows itself in rapid deterioration of writing and spelling. The teacher must be on the alert for signs of fatigue and be ready to direct the child's interest towards some less tiring form of activity. This brings us to the question of spelling.

Spelling

Learning to spell involves the acquisition of muscular and visual habits. The older school paid much attention to spelling—learned chiefly by oral chorus repetition—and tended to emphasise good writing and spelling above spontaneity and freshness of thought. The newer school puts the emphasis on the production of naïve and lively work, and tends to regard good writing and spelling as of little importance. Teachers of this school seem to feel that the slightest breath of adverse comment may damp the child's ardent spirit; yet the teacher who regards the child's writing of "ofer" for

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"off of" or "cud" for "could" as quaint and rather amusing, would not allow the same child to continue reading "saw" for "was," or "bog" for "dog," if she could do anything to prevent it.

Without cramping the child's thought, we can direct his attention to correct spelling, especially where the error is tending to become a fixed habit. We can convey to him indirectly that his work will be of increased value when it is not only interesting to himself but also intelligible to anyone who wants to read it. We can encourage the children towards accuracy by keeping their best efforts to be bound into story books for other children to read, and so forth.

Much can be done to eliminate habitual mistakes in spelling by means of the word-study lessons. We can arouse interest in the queer inconsistencies of our language, and lead the children to pay attention to the form rather than the sound of these words. We can help them to build up their own dictionaries of "queer" words, to which they should have recourse when they are doubtful of the spelling of a word.

Summary

We have now outlined the way in which children may acquire skill in the mechanics of reading and writing, without, as we believe, any sacrifice of their spontaneous activity. All children unconsciously, and many quite consciously, are anxious to acquire these skills, which

LEARNING TO READ AND WRITE

seem to them to be important activities of grown-up people.

It is the teacher's task to see that they pursue the work in a spirit of high-hearted adventure, meeting difficulties with courage and perseverance, attaining their goal only through intelligent effort, for, surely, this is the essence of all satisfaction in achievement, whether it is the little child's learning to read and write, or the invention of one of the marvels of modern civilisation.

SUGGESTIONS FOR READING AND STUDY

- Huey, E. B. *Psychology and Pedagogy of Reading*, chaps. i, ii, iv, x and xvii.
Gates, A. I. *Interest and Ability in Reading*, chaps. v and vii.
Luke, E. *The Sentence Method of Reading*.
Catty, N. (Edit.) *Modern Education of Young Children*, pp. 45-54.
Hamaide, A. *The Decroly Class*, Trans. Lee Hunt, chap. vi.

SUGGESTIONS FOR INDEPENDENT WORK AND DISCUSSION

(1) Make a study of the reading ability of any two children in a class that you teach over a continuous period. Observe as closely as possible their method of discovering new words.

(2) Make a list of suitable topics based upon play activities to follow the suggested group lesson on a "ball." Prepare three possible reading sheets for the home-made reading book.

(3) Select a first reader and prepare three pages for a "work" book on the lines of the suggestions in the chapter.

(4) Draw up in some detail a plan for a week's word-study lessons. Give the stage of reading ability at which you expect the class to be.

CHAPTER X

THE TEACHING OF NUMBER

WE are still too much influenced by the tradition of the nineteenth-century Code in our view of the standard of attainment in *written* arithmetic that should be expected from children at the end of their Infants' School Course. Although most teachers now realise the futility of formal work in number for children under six, they have been slow to change their views with regard to the type of work suitable for the older infants.

This conservatism may be traced to several causes:—

(1) The continued pressure from the upper departments, where teachers still expect that a child of seven and a half years shall be able to perform two place operations in all four rules.

(2) Lack of understanding on the part of Infants' School teachers as to what might be done to replace the formal written work.

(3) Large classes and lack of space in the classroom, which often make it difficult to carry out purposive activities relating to number.

(4) The attitude of the children themselves, for many children do undoubtedly enjoy working "sums." The

THE TEACHING OF NUMBER

source of this satisfaction is due, in some measure, to a child's natural joy in achievement, but is also greatly affected by the attitude of adults, who are prone to appraise mechanical facility too highly, especially as it is often accompanied by very little real understanding of the meaning of the processes involved.

In the earlier chapters, we have referred to activities such as play with sand and water, and the use of scales for developing notions of quantity, and we have suggested that the counting and measuring aspects of number should be approached through constructive play, occupations, games and centres of interest. All that children up to seven need to know of number can be acquired through the development of these play impulses to a higher level, while in the last six months of their stay in the Infants' School they can be helped to summarise and express orally and in writing the result of these experiences.

This means that, in written arithmetic, considerably less should be expected of children on promotion to the Junior School, but this will be balanced by a more thorough understanding of the fundamental processes and by increased facility and speed in dealing mentally with numbers under eighteen. Children trained in this way will make rapid progress when they do begin systematic written work.

Before we make a plan for activities in number, let us summarise the attainments that may be reasonably

TEACHING IN THE INFANTS' SCHOOL

expected of children by the time that they are seven and a half years.

I. They should have an understanding of the meaning of numbers up to a hundred and of their relations to one another.

II. They should have had practical experience of the common weights and measures, should be able to recognise the common coins and know something of their relative value, and should have a practical knowledge of simple fractional values.

III. They should be able to perform, with the use of concrete material, simple examples in the processes of addition, subtraction and multiplication, within the hundred range.

IV. They should be familiar with the addition and subtraction bonds up to eighteen (i.e. up to $9+9$ and $18-9$). They should have begun to memorise the easier multiplication and division bonds.

We may conveniently divide the work in number into two stages:—

(1) The preparatory stage up to six years, in which knowledge is gained informally and often in an incidental manner.

(2) The systematic stage in which some time is given to the study of number apart from the opportunities that arise through the activities of the classroom.

Some suggestions for activities in the preparatory stage have already been described, but a brief summary

of this work, together with its extension into the six to seven years old period, will now be given.

I. Understanding of the Meaning of Numbers

Let us consider first how a child acquires an understanding of the "meaning of numbers." It involves:

(1) Learning to count.

(2) Recognition of number groups and the analysis of numbers, including simple addition, and multiplication, subtraction and division processes.

(3) A grasp of the measurement or ratio idea of number.

(1) *Counting*.—Ability to count is the basis of all knowledge in arithmetic, for, as Dr. Ballard¹ says:

"All the rules of arithmetic are but expedients for shortening the time and labour of counting; and the results we arrive at tell us no more than we could discover by counting; they only tell it more quickly. Addition is counting forwards, subtraction is counting backwards; in multiplication and division, we count forwards or backwards by leaps of uniform length."

Young children enjoy counting, and do it quite spontaneously, but, at the same time, teachers of little children are fully aware that to possess the language of counting does not imply an understanding of its meaning. To gain this knowledge, the child must learn to count and name *objects*. This counting is best learnt at

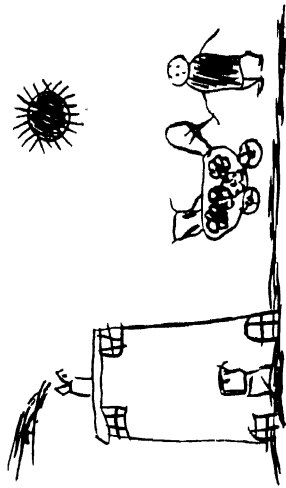
¹ Ballard, *Teaching the Essentials of Arithmetic*, pp. 58 and 59.

first by the use of separate or discrete objects and should not proceed beyond twelve for some time.¹

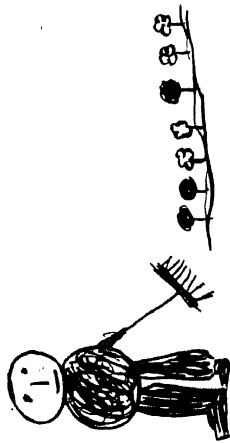
Objects should always be intrinsically interesting, e.g. brightly coloured wooden beads, coloured beans, coloured sticks, tablets or shells. All children love to thread beads, to sort and arrange things, and between four and five years their number occupations may be of this type. Bead threading should at first be pursued simply for the child's satisfaction in colour or form and in making a long string; but when the children have had a really satisfying time in this way, we can introduce devices which may cause attention to be directed more to the number aspect of threading, for example, using charts of beads for threading in groups of two, three, four and five, varying the form and colour of each group. Five-year-old children find this an absorbing occupation, and when the beads have been strung according to the chart, the string can be placed upon the table and the corresponding figure placed below each group.

Counting for children of six to seven may be developed further. We may introduce them to the decimal system of notation by explaining the convenience of counting in tens. Each child should be supplied with a box of beans, sticks or beads, and learn how to make up his own sets of ten. In the Decroly School, ten beans are put into a small bag; some of the bags are sewn up, to

¹ See Lodge, Sir O., *Easy Mathematics*, p. 1.



mother takes
baby out



Dad is digging
the garden.

AGE 5 YEARS 11 MONTHS
FIG. 19.—EXAMPLES OF CHILD'S FIRST EFFORTS AT FREE WRITING AND DRAWING.

be used always as whole tens, while others are tied so that they can be opened easily and the contents used as units in different operations. Sticks may be banded into bundles of ten and beads made up into ten-bead bars. The use of a variety of material to express the same idea is valuable, since it prevents the child from forming fixed notions, *e.g.* that "ten" must be either a bead bar or a bundle of sticks.

Counting may now proceed from ten to a hundred, by tens, both forwards and backwards, and when the children are facile with this, they may learn to associate the symbol with each number.

At this point Punnett's¹ Number Chart—which shows ten rows of ten circles, each row differently coloured—will be found most valuable for developing skill in counting within the hundred range. From the chart, the children will learn to count in tens and fives—thus incidentally acquiring the tables of tens and fives—and also to count in tens from any number, *e.g.* to count in tens from 2 to 12, 22, 32, 42 and so on.

Later, when the children have had experience in handling discrete objects in *groups*, counting in "twos," "threes" and "fours" can be attempted. Lack of proficiency in these forms of counting is often a cause of slowness and inaccuracy in the Junior School, since many children never seem to pass beyond the stage of

¹ Punnett, M., *Groundwork of Arithmetic*, pp. 81-86.

counting in ones, and even this is done with dots or taps of the fingers or nods of the head.

Practice in counting can be taken with the whole class, or with the children in groups according to their stage of attainment. Lessons should be short, very brisk and varied in treatment, so that the children are kept mentally alert. Apart from the collective or group lessons, we can give a variety of apparatus for individual practice in counting, such as the Montessori Bead Chains or the Bead Frames.

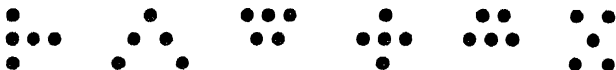
Sorting, which is a form of counting, is also a spontaneous play interest of young children. This impulse is utilised by Decroly and Montessori to develop notions of number. Both these educationists make use of "sorting" boxes—boxes or trays with compartments numbered from 0-9 into which the children put collections of objects. At first the objects may be discrete or separate, but soon they should be banded together in groups of two, three, four, five, *like* objects. Montessori uses wooden staves fastened with bands of rubber or silk; Decroly makes use of small common objects, such as buttons, beads, rings, or little toys, tied together in groups.

Later, at about five to five and a half years, picture groupings can be used in place of concrete objects.

(2) *The Group Idea of Number*.—From his play in stringing beads in series and in sorting objects into

numbered boxes, the child gradually comes to realise that the name "two" fits a group of two separate objects; "three," "four" and "five," a collection of three, four and five objects, etc. At first by "one by one" counting, but soon by visual apprehension of the whole, he learns to recognise and name these group arrangements readily.

We can spend some time in playing with this "group" idea of number. We should let the children discover as many different ways of arranging the group as possible, *e.g.* that a group of five can be arranged:—



This idea of recognition of a group in varied form is an important principle, for the child's mind should never be coerced by the teacher into thinking that there is only one pattern or arrangement of a group of objects.

Apart from the group lessons in which the children work under the guidance of the teacher, we should give opportunity for individual practice in the recognition of groups of number. Valuable suggestions for interesting occupations will be found in Dr. Decroly's *L'Initiation à l'Activité par les Jeux Éducatifs*.

Playing-cards are particularly useful at this stage, since both the series and the group idea is inherent in the playing-card. The children can learn to play "card" dominoes, a favourite game with children of

five to six years. In her *Psychology of Number*¹ Miss Drummond gives many valuable suggestions for the use of playing-cards, both for individual and group work.

Analysis of Number Groups.—Through the activity of placing objects in groups emerges the idea of analysis or the relations of numbers, *e.g.* five will have been seen as three and two, or four and one; six, as two rows of three or three rows of two; nine may be five and four, or three rows of three, etc.

At the six-year-old stage we can help the children to make their knowledge of the relations of number more precise and, at the same time, introduce them to the conventional signs for expressing addition and multiplication bonds.

This mental play with what Thorndike calls "the nucleus of facts" about a number is most important, since it is the foundation for the memorisation of—

- (1) Addition and multiplication bonds.
- (2) Subtraction and division bonds.

Upon this knowledge, facility in mechanical arithmetic depends. Study of number relations can be a really stimulating pursuit for children, if it is guided with intelligence and develops only as the children are ready for it.

In the class or group lesson, as well as in the indepen-

¹ M. Drummond, *Psychology of Number*, chap. iii.

dent work, we should continue to make use of varied material, so that the mental play is as unrestricted as possible.

After a little practice in arrangement of concrete material, oral and blackboard work leading to memorisation of the statements may be given. These lessons should be taken in small groups, so that the teacher can supervise and use the activity of each child. We can, for instance, write a number, *e.g.* 9, on the blackboard, and invite the children to make number "stories" about it. Some children will still need to make concrete arrangements before giving them orally, while others will be able to *see* mentally a relation at once. Each child then gives his "story," which will be recorded as follows:—

$$9=6+3$$

$$9=3+6$$

$$9=5+4$$

$$9=4+5$$

$$9=3 \text{ threes or } 3 \times 3.$$

$$9=8+1$$

$$9=7+2$$

$$9=1+8$$

When the list of possible "two-piece" arrangements is complete, it should be studied for a few moments, and then the children should be encouraged to give from memory as many of the arrangements as they can recall. Constant practice soon gives facility with the range of numbers from 2 to 12.

Later, the process can be reversed—the arrangements (expressed in figures) can be written on the

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blackboard, to which the children supply the answers, *e.g.* :—

$$3+2=$$

$$5+2=$$

$$\begin{array}{r} 3 \times 3 : \\ \underline{33} \times = \end{array}$$

$$7+1=$$

$$1+9=$$

$$3+7=$$

$$8+2=$$

$$2 \times 5=$$

$$4+4=$$

$$2 \times 4=$$

$$6+3=$$

$$1+6=$$

The children are now ready for independent work in the equation form of addition and simple multiplication. The actual process of writing down “sums” is not only muscularly fatiguing to a child of six, but also absorbs a good deal of his attention. This wastage of mental energy and harmful division of attention can be avoided if *written work* is eliminated at this stage.

This can be done by preparing sets of number statements, with answers on separate cards (three or four sets in each box). The equations should be planned to cover all the addition and multiplication bonds up to twelve, and later to eighteen, and should give practice in both analysis and synthesis of number, *e.g.* :

8=	4+4	2×4	6+2	5+3	
6+3=	9	8+2=	10	2×6=	12

The children should be free to work out the answers with the use of the concrete material if they choose, and, in any case, at first, they should be expected to check their own arrangements with concrete material before asking the teacher to look over their sets of equations

TEACHING IN THE INFANTS' SCHOOL

and answers. The teacher is thus saved a good deal of unnecessary work both in setting and correcting little sums.

A few words might be said here about the size and kind of type used in the preparation of the number slips. Figures should be fairly large (12-14 point), very clear and distinct in form (clarendon type), and stand out well from the background—a yellow card with dark-blue figures is suggested, as being in accordance with the recent findings of the National Institute of Industrial Psychology.¹

A study of subtraction and division relations of numbers up to eighteen should be dealt with next. Use should first be made of the concrete material to discover facts; this will then be followed by oral work to systematise and help the children to memorise the ideas, and by independent work to give practice in the equation form of expressing simple operations in subtraction and division.

As soon as the children are really familiar with all four processes, varied types of "elliptical" and "choice," oral and mental, work should be given, to prepare the children for the use of number cards on the same lines. At this stage the children can begin to record the work in *writing*.

We can then pass on to the study of the numbers within the 10-100 range. At first, with the use of the

¹ W. D. Seymour, *Improving the Blackboard*.

26. 4. 45.

My Mother

My mother is always busy. On Sunday she cooks the dinner and she hasn't got a scrap of time to go out. But one Monday she had a bit of time and took us to the park. And she took us down to the swings. And after a while we went up on to the grass and had a game of cricket. The next day we had to play in the garden while she went shopping. After she'd cooked the dinner, she went out to get tomorrow's dinner. Then she had to get the tea ready. Well after tea me and my brothers and sisters went out in the garden and had a game, while she was making the beds.

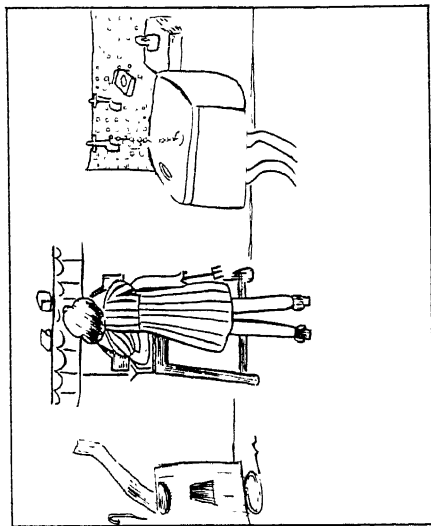


FIG. 20. SPECIMEN PAGE OF CHILD'S FREE WRITING. AGE 7 YEAR 6 MONTHS.

TEACHING IN THE INFANTS' SCHOOL

concrete material, the children will discover facts such as:—

$$50 = 30 + 20; \quad 40 + 10; \quad 20 + 30; \quad 2 \times 25; \text{ etc.}$$

Oral work, gradually discarding the use of the concrete, will follow, and, finally, the children can practise independently the equation form of statement with the number range 10–100, *e.g.*—

$60 =$	$30 + 30$	$40 + 20$	2×30	etc.
$10 + 30 =$	40	$60 + 20 =$	80	etc.

The development of the relations of numbers, from the simplest play with concrete objects to the more advanced oral work, has been described in some detail, since it is of great importance for a sound concept of number. Success in the later work depends upon clear apprehension of number facts; slow thinking and inaccuracy in the junior stage will be obviated if we help the child to organise his knowledge intelligently in the Infants' School.

(3) *The Ratio or Measurement Idea of Number.*—We have now to consider how the *ratio* or measurement concept of number develops. This is the idea that two, three, four, five, etc., are two, three, four or five times whatever is “one.” It is the principle underlying the Montessori Long Stair, the Montessori and Chelsea Bead Bars, and many other types of kindergarten number apparatus.

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This aspect of number can be developed through various natural interests and activities; for instance, through play in the nursery and five to six year old stage; through constructive and project activities at a later stage.

Play Activities.—Through play with bricks the child first grasps the notion of long or short; just as long, or a little shorter; perceives that two of one length of brick are together just equal to a longer one. When a child sets out to make some construction, shall we say an arched viaduct or colonnade, he is faced with the fact that he has not enough bricks of one kind to make the columns. He may have two bricks twelve inches high for either end, but the remaining pillars must be made up with two bricks which are together equal to the twelve-inch ones. He therefore arrives unconsciously at the idea that the twelve-inch brick may be measured by the one and the eleven, or the nine and the three, and so forth. Again, he may want to lay out the plan of a house (see Chapter III, page 52) and finds by trial and error that he must use six of a certain size bricks to balance the three long bricks on the opposite side.

In a variety of ways, then, the child is introduced to the idea of ratio through play with bricks.

Measurement is also involved in play with sand or water, for, after a period of more or less aimless functional play, the child begins to fill cartons, pails or other measures of different sizes. The teacher can direct

the children's activity at this stage by encouraging them to discover how many "little" measures are required to fill the "big" one.

Again, if we provide the children with bags of varied objects, graded in size, the idea of ratio is unconsciously perceived, for the child will spend much time in sorting these, and, on his own initiative, tends to arrange them in ascending or descending order of size. (See Fig. 21, A and B.)

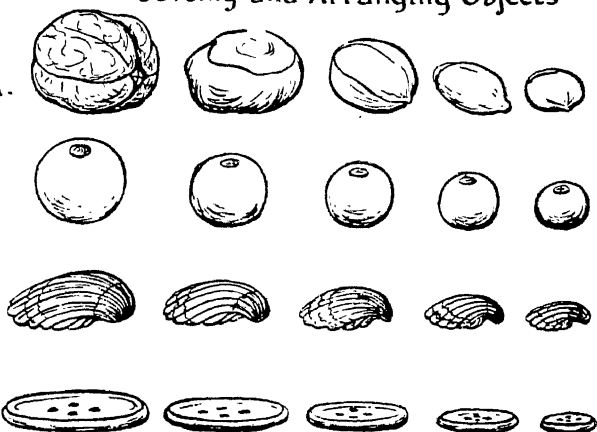
The ratio idea is implicit also in many nursery toys, for example, in nests of brightly coloured boxes, eggs, or dolls, which have to be fitted one within the other; or in sets of graded wooden rings which must be threaded in order upon a central rod. All these popular nursery toys should find a place upon the shelves of the nursery class cupboards.

The use of certain forms of apparatus in the nursery class helps to make the idea of ratio more precise. For instance, ratio is the basis of the Montessori Pink Tower, the Broad Stair and the Long Stair. In the Pink Tower, the relation of the smallest piece to the largest is 1 : 1,000; in the Broad Stair, 1 : 100; in the Long Stair, 1 : 10. We do not, of course, attempt to *teach* these precise relationships, but rather through playful experiment allow the child's mind to develop apprehension of the principle, by learning to make finer discrimination of relative size.

Although both Thorndike and Lodge hold that the

Sorting and Arranging Objects

A.



B. Sorting and arranging geometric shapes

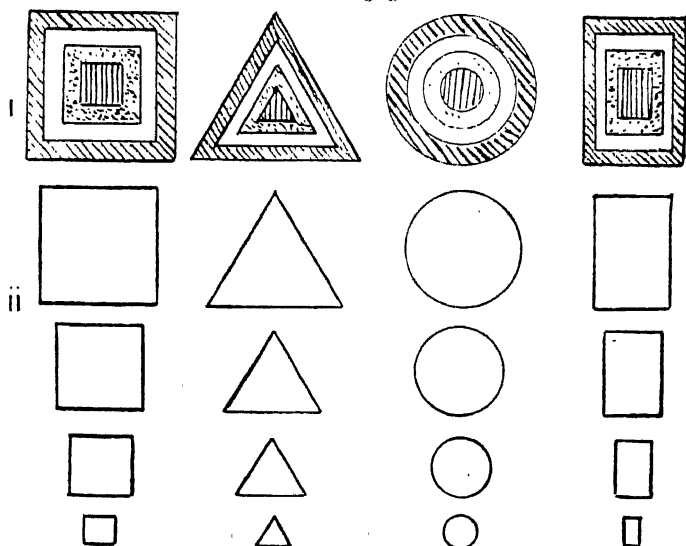


FIG. 21.

first idea of number relations is best grasped through the handling of separate objects rather than through the use of divided scales, yet we should, towards the end of the five to six year old period, provide various types of "graded stair" apparatus with which the children can experiment and make discoveries.

II. Practical Experience, etc., in Weights, Measures, Money and Fractions

The ratio idea of number also develops through all kinds of practical experiences in connection with construction and "centres of interest." In an earlier chapter we have suggested how interest in weighing and measuring and a knowledge of the coins in common use may arise from a "shops" interest.

Even for the older children in the Infants' School, it is probably wiser to keep all work with weights and measures—except for simple oral work—entirely practical. Through varied activities, children of six and a half to seven and a half years can become thoroughly conversant with the relations of the 1 lb., $\frac{1}{2}$ lb., $\frac{1}{4}$ lb., 2 oz. and 1 oz. weights. We can, for instance, make up sixteen 1 oz. bags of sand or shot, which can be weighed against the 1 lb., $\frac{1}{2}$ lb., $\frac{1}{4}$ lb. and 2 oz. weights. After a good deal of practical work, the children may be shown how to summarise their discoveries in "table" form in their number notebooks.

The children should also have practice in *estimating*

weights of objects. Attention may be directed to the skill of the butcher or cheesemonger, who are often able to gauge almost exactly the required weight of meat or cheese. Simple exercises in judgment of weight can be proposed; we can prepare packets or bags of sand, rice, beads or nuts, and let the children first estimate the weight and then test their judgment with the scales.

Knowledge of the relations of the quart, pint, half-pint and one-third pint can be developed along the same lines in connection with the bottles of milk supplied to home and school.

Measurement of length is developed through the necessity for more accurate measurement in construction, e.g. in sawing strips of wood for the legs of a table for the doll's house or in making things like curtains for the windows of the large play-house. Between six and seven, the children may have set up a draper's shop and have used the yard measure of the draper's counter. Most of them will also be familiar with the schoolboy's ruler and long to become the proud possessor of one.

At about seven years of age, we can help the children to organise their practical experiences by giving a few lessons on the common measures of length, such as the yard stick, the tape measure, the carpenter's foot-rule and the ordinary 12-inch ruler. We may decide to start with the ruler, since the children should learn to use a simple form of this before promotion to the

Junior School. The ordinary wooden ruler with its 1 in., $\frac{1}{2}$ in. and $\frac{1}{4}$ in. markings is too complicated for a beginner's use. We must, therefore, help the children to make their own first rulers by providing them with a plain strip of stiff, coloured manilla card 12 ins. by about $1\frac{1}{4}$ ins.

We should draw attention to the need for an exact measure by some preliminary activities in rough measurement; for example, lines can be drawn on the asphalt of the playground, which the children measure with their feet. They will soon discover that, measured by a child's foot, a line is so many feet, but, measured by the teacher's foot, the number is considerably less.

The children are then given the foot-long strips of manilla card, and proceed in pairs to measure different objects in the classroom and the school. The results of measurement will at first be approximate, *e.g.* the blackboard is four feet and a bit; the table is three feet and about a half, and so forth. The children should record the lengths in their notebooks, and later, in a discussion lesson, the results can be compared and checked.

One piece of measuring apparatus much enjoyed by the children is a "measuring ladder"—a strip of thin manilla card about 7 ft. long by 9 ins. wide, and marked off in rungs 1 ft. apart. This is hung vertically upon the wall, and upon it the children can record, by means of paper flags, the height of each child in the

class, the height of the teacher and of all the visitors who come into the classroom, the height of the teddy bear or the biggest doll, etc.

The children will now be ready to learn how to mark their rulers into accurate divisions. They can discover how many inches there are in the foot-rule by placing 1-inch tablets of stiff paper along the ruler. The inch squares can then be pasted to the strip by the child, or, since this needs steadiness of manipulation, the teacher may prefer to mark off the inches on the strip with Indian ink. The children will then number the divisions from 1 to 12, care being taken to put the figures exactly *on* the dividing line. The children will then continue their measuring work with the more exact measures.

The "yard" measure can be taken next; the children will quickly discover that it takes three of the foot measure to equal the yard stick, and that thirty-six 1-inch tablets can be fitted along it. The first part of the table of length has thus been acquired through practical experience, and can now be recorded in "table" form in the number books.

To follow up the group or class lessons, we need a variety of practical exercises to give individual practice with the ideas. These exercises should involve judgment or estimation of length as well as the use of more exact measurement; while every opportunity should be seized to make use of the children's newly gained skill

in what might be called "real" situations in the classroom, such as the drawing to scale of a picture plan of the model of the school environment. (See Plate IV.)

The more intelligent children in the top class of the Infants' School could easily learn to work simple written examples in the addition of weights and measures; but since our concern in the Infants' School is chiefly with the *accumulation of experiences*, it seems much wiser to postpone all written work to the Junior stage.

Money.—Through play with shops, or play at bus or train riding, through making and selling tickets for the classroom cinema or dramatic performance, the children will have gained a good working knowledge of the coins in common use, and of their value; will have learned to give change and make small bills.

Between seven and seven and a half years, we can take some group or class lessons designed to give oral facility in the addition and subtraction of small sums of money, and in the mental solving of easy printed problems. With the children's help, we can prepare a large picture of a shop window, *e.g.* a toyshop or a greengrocer's shop. Objects can be cut from catalogues or picture books, or drawn, painted and cut out by the children. The objects are then pasted on to a paper background of a window, and beside each object a small slit is made in the paper to take the price ticket.

A discussion on the prices of things will follow—

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some are sold individually, some by the bunch, the dozen or pound. Price tickets will be prepared accordingly. Figures should be printed with a signwriter, and must be clear and distinct, so that they can be seen easily. Price tickets are now inserted beside the objects, and the children are ready to play all kinds of games with the shop.

We can, for instance, find the cheapest thing, or the most expensive thing, in the shop; the price of two, three or four of the same object; the price of two or three objects together. We can find out how many of one object can be bought for the price of another, *e.g.* how many penny tops can be bought for the price of a skipping-rope or a box of soldiers. Somewhat more difficult problems can be suggested—using cardboard coins, at first, the children can be asked to find ways of spending a sum of money, *e.g.* 1s., 2s., 2s. 6d., 5s., in the purchase of two, three or four objects.

Great variety can be introduced in these lessons: valuable hints for varied types of exercise can be gained from *Fundamental Arithmetic*, Book I, or *Modern Guide Arithmetic*, Book I.

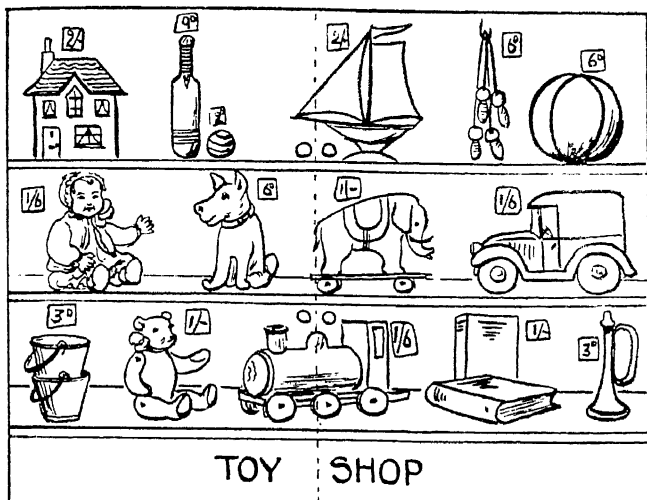
Since most children of seven to seven and a half years will read reasonably well, we can finally prepare, for independent work, some simple written problems on the "shop" windows—the problems to be read and worked mentally, answers only being recorded. When children first attack written problems, a good

deal of their mental energy is expended in the interpretation of the meaning; we must, therefore, be careful to see that the amount of calculation involved is small and well within the children's mental compass. (See Fig. 22.)

The children may also be encouraged to make up their own problems, write them down (a motive for good writing), and work out the answers. The most original of the problems could be typed or written by the teacher on cards to be used for practice work by the other children in the group.

Notions of Fractional Values.—Practical work in fractions should be included in the number scheme for children of seven to seven and a half years. Before this age, the children will have met the notions of half, quarter, and three-quarters in a variety of ways, e.g. in weight, through the 1 lb., $\frac{1}{2}$ lb. and $\frac{1}{4}$ lb. weights; in length, through the yard stick, and through cutting yards, $\frac{1}{2}$ yds. or $\frac{1}{4}$ yds. of ribbon or material; in money, through the 1d., $\frac{1}{2}$ d. and $\frac{1}{4}$ d.; 1s., 6d. and 3d. These ideas can now be generalised by the study of fractional parts, using some form of concrete, easily handled, material.

In her "Advanced" material Montessori uses the circle to give the children notions of fractions. This has much to recommend it, since all sectors of a circle are of the same general form and can, therefore, be easily compared.



1. Buy an elephant and a book. 2/-
2. Buy a dog, a pail and a skipping rope. 1/3^d
3. Buy a boat, a big ball and a dog. 3/-
4. How many pails can I buy for 1/-? 4
5. Buy an engine and a doll's house. 3/6^d
6. How many books can I buy for 5/-? 5

FIG. 22.—TWO PAGES FROM A CHILD'S "BOOK OF SHOPS."

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The children should prepare their own paper circles, from kitchen or plain wall paper, by drawing round a template of a circle about four inches in diameter. (Compasses or a circle marker can be used if the children are able to handle these accurately.) A number of circles should be prepared, so that the children will not be restricted in their experiments.

In the first lessons the idea of whole, half, quarter and three-quarters will be dealt with by cutting one circle in halves, one in quarters and a third into three-quarters and a quarter, and leaving one circle *whole* for comparison. When the children have cut and named their fractional parts, all kinds of little exercises designed to give ease in the recognition of the fractions and in realisation of their equivalent values should be given. The "fraction" games described by Miss Drummond¹ are excellent, and can be adapted for group and class work, as well as for use as individual occupations. Each child will build up his own fraction book, by cutting and pasting coloured circles into the book. Statements in equation form should be written beside the different arrangements, *e.g.*:

$$\frac{1}{2} \text{ and } \frac{1}{2} = 1; \frac{1}{4} \text{ and } \frac{1}{4} \text{ and } \frac{1}{2} = 1. \quad (\text{See Fig. 23.})$$

In subsequent lessons, the whole divided into eighths; seven-eighths, six-eighths, five-eighths, etc., will be dealt with. A great variety of interesting and really

¹ M. Drummond, *The Psychology and Teaching of Number*, chap. viii.

Two pages of child's fraction book.

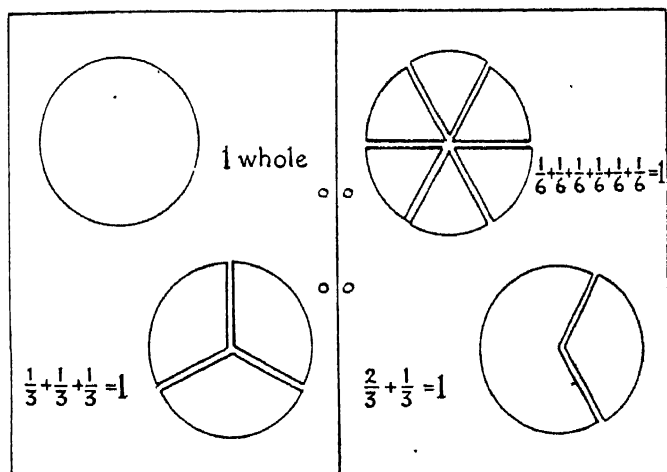
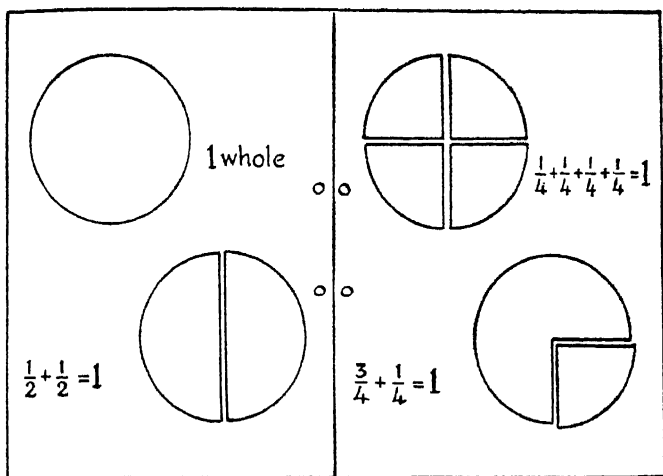


FIG. 23.

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useful exercises can be developed in connection with this additional fraction.

When the children have attained reasonable facility in the handling of their paper fractions, oral work can be given, *e.g.* the following may be written on the blackboard:—

$$\begin{aligned}\frac{1}{2} + \frac{1}{4} + \frac{3}{4} &= \\ \frac{3}{4} + \frac{1}{2} + \frac{1}{4} &= \end{aligned}$$

The children soon gain great facility in building up the wholes.

. The reverse process can also be given:

$$\begin{aligned}1 &= \frac{1}{2} + \\ 2 &= \frac{1}{4} + \frac{1}{2} + \end{aligned}$$

(The children give suggestions for the completion of the statement.)

The fractional idea may now be applied in various ways in oral lessons, *e.g.* to:

Numbers. What is the half of 10? quarter of 12? eighth of 16?

Money. If the whole is a shilling cake, what will a half cost? a quarter cost? three-quarters cost?

Time. How many minutes in half an hour? quarter of an hour?

Weight. How many ounces in half a pound? quarter pound?

III. Addition, Subtraction and Multiplication of Two-Place Numbers

If the children have had the training outlined in the preceding pages, they will have little difficulty in learning to perform—in the last three months of the Infants' School Course—simple operations in two-place addition, subtraction and multiplication. Subtraction involving carrying, and division of two-place numbers, should normally be postponed to the Junior stage, *i.e.* until the children are about eight years of age.

In their earlier counting exercises, the children have become familiar with the range of tens from 10–100, and with the mode of notation of these numbers; while by use they are familiar with the written symbols for numbers 11–19, although no detailed study of these numbers may have been taken.

The first step is to teach the children to *read*, from the concrete, arrangements of tens and units from 20–100; to translate the written symbols into the concrete, and to make any number from oral dictation. We can use the bundles of sticks or beans of the earlier work, together with a supply of loose sticks or beans; a set of number symbols 20–100 and a number of cards with the single figures 1–9.

We begin by dictating a number, *e.g.* “30.” The children put out three bundles, and place to the right of them—but some distance away—the card with the

number 30. We suggest that the number shall now be changed to 35; the children quickly respond by placing the five single sticks beside the bundles. They will then be shown how to place the number card "5" *over* the zero figure of the 30 so that the number reads 35.

The method of oral and written dictation accompanied by construction should be continued for a few lessons until the children are thoroughly familiar with the range 20-100. We next deal with the numbers 11-19. The most important point here is to see that the children's enunciation of the numbers is clear, so as to avoid confusion between "50" and "15," "16" and "60."

The children are now ready for practical work in addition. At this point we introduce the vertical method of setting down the numbers, since to add, multiply, or subtract two-place numbers in horizontal form is too difficult for children of this age.

Addition without carrying is easily learnt in one lesson, since the addition of any two numbers should be by this time practically *automatic*. We show the children how to write down the sum and record the answer; and since they have not been bored with quantities of mechanical written work, they will find this quite an exciting adventure; while their superior muscular skill will enable them to do it much more easily than if they had begun at, say, the age of six. A dozen or so examples should now be worked independently.

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Subtraction without carrying can, in the same way, be learnt in a single lesson, and then a very short time should be spent on independent practice of the two processes.

Addition *with* carrying should be taught carefully, using the concrete material again for the first few lessons, in order to demonstrate the method of making up the tens. The chief need is to grade the examples; the first series should involve addition in which the units make "ten" exactly. After the group lesson, the children should work a few examples, using the concrete material if they wish. The second series involves addition in which the units will add to more than ten. This, too, should be carefully demonstrated with concrete material before the children work examples independently.

If this method of teaching is used, it obviates all those practices or memory devices to which we have sometimes resorted in the past, such as writing the numbers of the first addition at the side, and crossing off the units figure, or writing the carrying ten as a "1" below the first figure of the "tens" column.

Subtraction *with* carrying, *i.e.* by the method of equal addition, should not be attempted in the Infants' School—its place is in the Junior School syllabus. At that stage it will be learnt easily and without confusion.

Division of tens and units, unless in very simple

form, should also be postponed to the Junior School, since the number of examples that can be performed without remainder from the "tens" is so few that it is not worth while to trouble the children with them. If they can halve and quarter numbers mentally, this is all that should be expected of them.

Simple multiplication by "2," "3" and "4" may be attempted in the Infants' School, although even this would be much better postponed in favour of other types of work which would prove more stimulating to the mind.

IV. Memorisation of the Number Bonds

In the last few months before the child is promoted to the Junior School, organisation of the number bonds into some system is desirable. For this work the "Winnetka Number Material"¹ will be found most helpful.

In particular, we should attempt to make the addition bonds secure. One interesting device is a number chart or board giving all the addition bonds from $0+0$ to $9+9$ in one table (see Plate VIII). Separate number cards are prepared for each bond, which are hung over the number combination. Group, class and individual practice can be given with this chart. When the children are practically perfect in giving the sum of any two numbers up to $9+9$, the process can be reversed;

¹ Washburne, *Adjusting the School to the Child*, chap. ii.

100 Addition Bonds

0	0+1	0+2	0+3	0+4	0+5	0+6	0+7	0+8	9
0	1+1	1+2	1+3	1+4	1+5	1+6	1+7	9	1+8
0	2+1	2+2	2+3	2+4	2+5	2+6	9	2+8	2+9
0	3+1	3+2	3+3	3+4	3+5	9	3+7	3+8	12
)	4+1	4+2	4+3	4+4	9	4+6	4+7	12	4+9
)	5+1	5+2	5+3	9	5+5	5+6	12	5+8	5+9
)	6+1	6+2	9	6+4	6+5	12	6+7	6+8	6+9
)	7+1	9	7+3	7+4	12	7+6	7+7	7+8	7+9
)	9	8+2	8+3	12	8+5	8+6	8+7	8+8	8+9
	9+1	9+2	12	9+4	9+5	9+6	9+7	9+8	9+9

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beginning with 18, the highest number, the children may work out the different addition bonds into which each number can be resolved. In their number notebooks, they can set out the results as follows:—

$$18=9+9$$

$$17=9+8; 8+9$$

$$16=9+7; 8+8; 7+9$$

$$15=9+6; 8+7; 7+8; 6+9$$

and so forth.

Multiplication Tables.—The multiplication bonds are usually taught much more thoroughly than the addition bonds, and often prematurely. It is important that the children should be led to realise through repeated concrete work that multiplication is only a shorter way of expressing repeated addition of equal groups. The work that has been described earlier in the chapter, on the analysis of number, prepares the way for the later systematic work, while counting in groups of two, four, three and five lays the foundation for the tabular statement.

A variety of peg boards can be obtained from any Kindergarten publisher; with these the child can build up the table of the twos, fours, threes, fives and, if he is sufficiently mature, the table of the sixes.

Montessori's suggestion, that the child should be saved as much muscular fatigue as possible in writing the results of the concrete work, is excellent. Table

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slips can easily be prepared, upon which the child has only to record the answer. (See below.)

2

$$1 \times 2 =$$

$$2 \times 2 =$$

$$3 \times 2 =$$

$$4 \times 2 =$$

$$5 \times 2 =$$

$$6 \times 2 =$$

4

$$1 \times 4 =$$

$$2 \times 4 =$$

$$3 \times 4 =$$

$$4 \times 4 =$$

$$5 \times 4 =$$

$$6 \times 4 =$$

(This shows the method of preparing the table slips. Only the upper half of each slip is shown.)

The records of the tables can later be placed into a loose-leaf cover, and, in this way, the child builds up his own table book.

Oral work should be given to make the bonds automatic, as soon as the children have had sufficient practice with the concrete material; and since, finally, each bond has to be known in isolation for use in multiplication sums, we should play games of varied type designed to develop this skill.

The Use of Number Games

Throughout the work of the six to seven and a half year old stage, we need to make use of number games to supplement the more formal work. In Chapter III we referred to several types of game for giving skill in the quick association of numbers with symbols and for keeping, in a concrete way, an addition score.

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In the later stage, games can be used for a variety of purposes, *e.g.*:

(1) Games of the "Snap" and "Lotto" type, to give speed in the quick combination of numbers, *e.g.* "make ten," "make twelve."

(2) "House" Lotto, to give skill in the rapid recognition of numbers up to 100.

(3) Games involving the use of playing-cards, *e.g.* for practising the sequence or series idea, or for gaining skill in the combination of numbers up to 15.

(4) Number tops of various kinds, with which the child can set his own "little sums."

(5) Domino games and domino puzzles, which induce reflection and mental play with number combinations.

(6) Fraction games. (See Appendix IV.)

In conclusion, let us attempt a summary of the main ideas that should influence the "number" teaching of children in the Infants' School:—

(1) We should realise the importance of the preparatory stage and not hurry the child through this, since it is during this time that he accumulates experiences for later systematic work.

(2) We must realise that "systematic work" is not essentially different from the informal activities of the earlier stage, but a natural development from it, dependent upon a child's "mathematical" maturity, not upon his chronological age.

(3) We must recognise the importance of the association of concrete work with the memorisation of the

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essential number bonds before formal written work is attempted.

(4) We must lay stress on those aspects of number teaching that will develop in the child a reflective attitude towards "number" in its wider sense, in preference to types of work which may be justly described as "mere juggling with figures."

SUGGESTIONS FOR READING AND STUDY

- Drummond, M. *Psychology and Teaching of Number.*
Ballard, P. B. *Teaching the Essentials of Arithmetic*, chap. iii.
Punnett, M. *Groundwork of Arithmetic*, sections I and II.
Washburne, C. *Adjusting the School to the Child*, chaps. ii, iii.
Lodge, Sir O. *Easy Mathematics*, chap. i.
Thorndike, E. L. *The Psychology of Arithmetic*, chap. 4.
Kenwick, E. E. *Number in the Infants' and Nursery School.*
Thomson, J. B. *An Experiment in Number Teaching.*
Brideoake, E. and
Groves, I. D. *Arithmetic in Action.* U.L.P.
Hume, E. G. and *My First Book of Sums; My Second Book of Sums;*
Wheeler, E. C. *My Book of Shops.* Evans Bros.
Teacher's Book, Kingsway Picture Arithmetics. Evans Bros.

SUGGESTIONS FOR INDEPENDENT WORK

(1) Select a "centre of interest" that you have observed or that you have carried through yourself, and describe the development of any number interest through it.

(2) Prepare suggestions for a ten-minutes' lesson in counting for:—

- (a) Children of six to six and a half years.
- (b) Children of seven to seven and a half years.

(3) Prepare a plan of a lesson for teaching:—

- (a) The first lesson in the addition of tens and units, *with* carrying.
- (b) An addition table.
- (c) A multiplication table.

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(4) Devise one or two number games that will give skill and speed in the following:—

(a) The combination of numbers to make “12.”

(b) The addition of any specific number, *e.g.* “7.”

Give the age in each case of the children for whom you intend the game.

(5) Plan a set of domino puzzles for children of seven to seven and a half years.

(6) Prepare notes of a lesson on “weights” for children of seven years, making clear what previous experiences you expect the children to have had.

(7) Plan some varied independent exercises upon the “100 Addition Number Bonds” for children of seven to seven and a half years.

CHAPTER XI

THE RETARDED CHILD

ALTHOUGH we do not usually call children in the Infants' School "backward" in the technical sense of the word, yet all teachers are familiar with children who, for one cause or another, fail to make the progress that a happy normal school environment should secure. It is not only in specific attainments in reading, writing and number that these children tend to fall behind their fellows, but also in the general attitude to the life of the school as a whole. It is important for their future happiness and success that an effort should be made, early in the school course, to discover the cause or causes of their lack of adjustment and to do what is possible to remedy this.

Although "backwardness"—to quote Professor Burt—"is a complex condition and must be attributed to a variety and usually to a plurality of causes," yet it is convenient to discuss the problem under definite headings, such as poor all-round intelligence; emotional disability, either innate or acquired; physical disability; and environmental conditions; remembering that although one of these causes may appear to be the most

potent, it is frequently aggravated by one or more of the other factors.

We will consider these causes in turn.

The teacher of the nursery class soon becomes aware of the individual differences among her little pupils. Some are from the outset active, courageous, enterprising and curious; they learn quickly the simple routine of the classroom, show a growing tendency to become absorbed in and concentrate upon the various interesting occupations provided. Towards the end of their stay in the nursery class they usually become specially interested in what might be called the more "intellectual" pursuits; they work, for instance, with patience and persistence to complete a jigsaw puzzle or a mosaic pattern. Without any formal teaching they pick up ideas quickly, ask questions, show signs of inventiveness and constructive ability. They quickly learn to listen to stories and verse; they look at pictures with interest and attention, and their spoken vocabulary develops rapidly. They give, as a rule, willing obedience to the teacher's requests and show signs of independence and a sense of responsibility. They are, in fact, thoroughly satisfactory pupils, making a good adjustment to their carefully prepared environment.

But some children, from the beginning, show signs of restlessness and instability. They are often disorderly in behaviour, do not learn to follow the routine of the class, rarely settle down to any task, tend to be destruc-

tive and to interfere with the other children. They are markedly lacking in persistence; they flit from one job to another, often leaving their toys to be put away by someone else. They cannot listen to a story and are only superficially attracted to pictures. They are not easy to manage, are inclined to be disobedient or wilful, and, if thwarted, may give way to fits of temper. Although these children are quick and often bright in appearance, they make very little real progress. If we observe the behaviour of a child of this description when he is in the company of his mother, we may be led to suspect that home conditions are not altogether satisfactory: the child may have been too much waited upon, or kept a baby too long, or he may be suffering from erratic treatment, his whims being satisfied at one moment and treated repressively at another. If this is the cause of his instability and retardation, progress through the well-ordered activity-school should do much to remove it.

A sense of security, under the friendly but firm direction of the teachers, will give the child confidence in them and win his regard; he will become less restless and moody, and gradually turn to work, at first of simple type, but, by degrees, to tasks involving more concentration. If he is of average or superior intelligence, he will have made good his retardation by the time he reaches the end of the Infants' School Course. The work of stabilisation will be greatly helped if the

school has a Parents' Association, for through this means much may be done, both directly and indirectly, to remove the source of emotional difficulty at home.

Frequently, however, the causes of instability lie much deeper than this; they may be due to some inherited tendency, or to some unconscious mental conflict developed during babyhood and earliest infancy. If the child fails to show signs of making a better adjustment to his school environment by the time he is five or, at the latest, six years of age, his case is one for the advice of the child psychologist or the "Child Guidance" clinic, who may be able to offer the school helpful suggestions for treatment.

That this advice should be sought early is important, for lack of steadiness of purpose and persistence of motive will increasingly affect progress in all those school subjects which demand patience and a self-imposed desire to surmount difficulties.

We may consider now the group of children—perhaps only two or three in a class of thirty—who seem definitely less developed mentally than their little companions. At three years of age, a child of this type will approximate more nearly to one of two and a half years—although he will lack the vigour and investigating curiosity of a normal two and a half year old child. He is babyish in speech, has little enterprise, is aimless in his play, is often content to sit still, is incapable of finishing any but the easiest occupation without the

stimulus of the teacher's suggestion. He cannot listen even to the simplest story, since he seems to lack the power to follow a narrative. He may be obedient and tractable, but shows no signs of developing independence or a sense of responsibility. At five years of age, if he is promoted to the next class and has the opportunity to do so, he will continue to select toys and occupations belonging to an earlier age, in spite of the variety of fresh occupations and pursuits that call for his interest. The teacher who observes a child of this type over a period of, say, a year will usually begin to think that he is "duller" than the other children.

Before we can come to any definite conclusion about him, a careful study of the home environment and early personal history will be necessary. Although the child is retarded in the activities and responses natural to his age, the cause may be chiefly *physical* or *emotional*, or a combination of the two. For instance, there may have been extreme delicacy in babyhood which has delayed the child's whole development; or a succession of childish illnesses, which have kept the child in bed a great deal, may have hindered him from making the contacts with the environment that a child of one to three years usually makes before entering school.

Extreme poverty of home conditions may be productive of inertia; the home may lack even the simplest

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toys, or the child may have been kept sitting still or he may not have been played with; or, again, he may have suffered from violent emotional disturbance in the home, which has induced passivity and a shrinking from all investigation for fear of painful consequences.

Retardation of this type we may describe as accidental; life in a good nursery class should enable the child to make up some of his loss, although, compared with the other children, he may still appear backward. Between five and six years, under happy school conditions, this child often makes great strides, and by the end of the Infants' School Course will be able to do average or possibly a little below average work.

On the other hand, an investigation of the home circumstances may not reveal any recognisable cause for the child's lack of progress. We need in this case to have recourse to some more exact method of determining the cause of failure. An Intelligence Test of the Performance Type¹ should be given, to discover the exact stage of mental development. At the age of three mental retardation of three or six months may appear unimportant, but we have to remember that the ratio of the mental to the chronological age remains practically constant. A child of three years with a mental age of two years and six months has a mental ratio of 83; at seven years this child will normally have a mental

¹ Buhler and Hetzer, *Testing Children's Development*, or Terman and Merrill, *Measuring Intelligence*.

age of five years ten months; at twelve, a mental age of ten years approximately. This backwardness, though hardly appreciable at the age of three, will be pronounced (if our first diagnosis is correct) by the time the child reaches the Senior School, and unless really skilled teaching has been given throughout the Infants' and Junior Schools he will be considerably below this mental age in actual school attainments.

Although it is the general consensus of opinion that nothing can be done to improve a state of inherent mental backwardness, yet much may be done to help this child to develop the powers that he possesses to the fullest extent; he can, at least, through sympathetic and intelligent teaching, reach the level of his mental age.

It is important that we should make every effort to discover the causes of a child's retardation. More harm is done in Infants' Schools than is commonly suspected, by expecting achievements beyond a child's mental capacity, more particularly in regard to the three "R's." Even if neither praise nor blame is given for results in school work, the backward child is not slow to perceive that he is falling behind the others, in those tasks that the teacher so obviously thinks are important. Discouragement with one's own efforts is probably rare in the nursery class, but from the age of five onwards, when many teachers make definite attempts to teach children to read, write and perform simple operations

in number, the dull child becomes increasingly aware of his own shortcomings.

By the time he is seven, he is probably conscious that he is regarded as a "dunce." His reaction to this sense of failure may take different forms. If he is a well-grown child with a certain amount of physical vigour, useful in his home in all kinds of practical ways, and a favourite with a section, at least, of his schoolfellows, he may unconsciously develop a somewhat hostile attitude to school, may despise what it stands for. He may then become a "naughty" boy, leader of a little gang of similar, but less adventurous, spirits.

On the other hand, he may not be a prepossessing child; he is not liked much by the other children, who adopt a patronising attitude towards him; in his home he may be subject to constant disparagement by comparison with an older or, still worse, a younger clever brother or sister. He quickly fancies that his teacher does not think much of him, and, indeed, if his value is measured by progress in reading and number, she probably does not think much of his ability. What does he do? He covers his sense of failure with a mask of apathy, he is slow, uninterested, really inattentive, given to day-dreaming, easily confused and prone to accept meekly the estimate that others have of him. This state of mind is often accentuated on promotion to the Junior School, where achievement in the three "R's" is even more the criterion of success.

Some Practical Suggestions

Let us consider briefly how we may hope to steer the child of poor mental ability clear of the difficulties that we have described above.

Let us think first of the schools that are working along the lines of an "activity curriculum." All head mistresses and staffs are agreed that, in these schools, the problems of backwardness assume considerably less importance. This would seem to indicate that where the natural interests and pursuits of children are made the basis of the curriculum, pupils develop more normally and are at least saved the conflict of emotional disturbance. Since no *demands* are made of the child under six in regard to reading or number, no feeling of strain arises. The child who is anxious to learn is free to do so, but is not allowed to think that his performance has any special merit. Emphasis is put upon constructive and other activities, such as painting and drawing, in which the child who is backward can usually do quite well. He may not perhaps be so inventive as the clever child, although one sometimes finds that children who are slow in learning to read have special aptitude for construction. Where this is the case, it can usually be made the starting-point for achievement in other directions.

After the age of six, when all children are expected to spend some time in systematic work in the three "R's," the group and individual method of learning

and teaching enables the slower child to go at his own pace; he is not over-burdened by comparison with children who are much better than he is, but only measures himself with the others in his group; while in individual learning he is not compared with anyone, his progress is a matter of interest only to himself and his teacher.

Nor is learning to read or do arithmetic given undue prominence even in the transition class; these activities are just *some* among other interesting forms of activity.

But apart from the general spirit and method of the whole school and the classroom, we do need to consider if special methods of teaching should be used for backward children. Some reference has been made to these in the chapter on reading. The points will be summarised here.

Mentally slow children need more varied and more *active* methods of teaching. Appeal must be made, not only to the eye and the ear, but also to the hand, and even to the whole body, *e.g.* reading must be approached through bodily activity, as in the use of action sentences, or through reading and drawing, and through the handling of material, as in carefully chosen individual reading occupations.

Lessons demanding concentration must be short and brisk and taken only with a small group at a time, so that each child can be really active. A combination of group and individual work is advisable for slow children,

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since the activity of a small group of children of approximately equal ability serves as a stimulus to effort; while in the individual practice period that should always follow the group lesson, the child has time to absorb the new ideas that he has gained.

Repetition with variety must be a feature of the lessons for slow children. They need to meet the same ideas over and over again, but always in a slightly different guise, so that attention and interest are held.

Encouragement for *effort* must be freely given, and where a child finds a task particularly difficult, the teacher needs to keep strongly before the child's mind the hope of success. Our attitude must always be that of "Bravo! you will soon be able to do it," never one of "How many more times must I tell you that?"

Records of progress are perhaps more important for the backward child than for any other. The clever child's progress is usually so spectacular that we need no record to confirm our opinion; the average child makes steady visible progress, but the development of the dull child is so slow and is often subject to considerable fluctuations, that only by keeping a record of his progress from the nursery class onwards can his gradual growth in power be realised.

As the child approaches seven and a half years of age, he must be encouraged to feel a sense of responsibility for his own progress; he may, for instance, practise himself with a time limit by seeing how many little

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sums of the equation type he can do correctly while the sand of an egg-boiler runs through.

Whenever possible, the backward child should be used for responsible tasks in the classroom and school. He may, perhaps, work with a brighter child in counting and distributing the bottles of milk to his class, or where, as in some schools, the children manage their own milk accounts, he may act as assistant account-keeper and thus come to see that work in arithmetic has some really practical purpose.

Above all, we want to convey to the children that even learning to "read" and "do sums"—the real bugbear for most backward children—can be a pleasurable experience, and that success and joy in achievement comes as the natural reward of willing effort in which the child and the teacher co-operate.

SUGGESTIONS FOR READING AND STUDY

The Education of Backward Children, H.M.S. Office.
Burt, C. *The Backward Child*.

CHAPTER XII

THE CORPORATE LIFE OF THE INFANTS' SCHOOL

IN the earlier chapters we have discussed the development of "classroom" activities from the nursery to the transition stage. We have now to consider those activities in which the school as a *whole* takes part. Much has been done within recent years, through various school functions, to promote a sense of corporate feeling, even in children of this tender age.

The *Assembly* is to-day one of the most potent forces in developing social sentiment in children. Every morning and, in many schools, at the end of the afternoon session, the children meet together in the school hall. We will describe the morning assembly, since it is the longer and more important meeting.

Each morning, a greeting is sung, followed by a hymn and the recitation of a simple prayer. The children then sit on the floor ready for the interesting news of the day. The first item may be a "birthday celebration." The child whose birthday falls upon this day comes forward to light the coloured candles that stand upon the head mistress's table; he lights one candle for

each year of his age. He is watched with eager interest by the other children, and when the candles are lighted, all join in singing to the child a little birthday greeting. Then, in turn, he tells the others about his birthday presents or shows his birthday cards; or, in a very poor neighbourhood, where presents are unknown, he may receive some small token of affection from the head mistress. For that day he is the honoured person in his class; he may lead the line during the physical training lesson, his favourite game will be played, his favourite story told. In all these ways the child is led to feel the interest of his teachers and playmates; his self-regarding sentiment is strengthened by the evidence of their affection for him.

Other matters of communal interest are often dealt with during "assembly" time; for instance, a country school may have sent a big box of primroses, cowslips or buttercups. These will be shown to the children at this time. The head mistress may read an appropriate verse, or the children will sing one of their little Nature songs of rejoicing in the flowers. Then will come the suggestion that the children shall do something in return for this kindness; the older children can write a letter of thanks, while the younger ones will draw or paint a picture to tell the country child something about their work or play in school and playground. Finally the flowers will be distributed to each class, so that all may experience the pleasure of handling them and have

the opportunity of brooding over them for the next few days.

Assembly time is often used to prepare the children's minds for a coming event, such as a "School Festival," or an "Open Day," when the children's parents will be their honoured guests.

Finally, the assembly may be a means of training the children in the act of quiet listening to music played either on the piano or gramophone.

The "School Festival"

Within recent years the Festival has become an important function in the education of school children, and has value even for the little ones.

The dictionary describes a "festival" as a "joyful celebration": this indicates the spirit that should pervade a festival for young children. It is to be essentially a social affair—an appeal to the heart rather than to the head; it is to be a time when teachers and children co-operate with joy for a common purpose to celebrate some school or national event. It is the occasion when each individual is animated by the desire to put his abilities, however small they may be, at the service of the group and subordinate his individual interest to the good of the whole. In children of Infants' School age, this desire for social co-operation will be at first vague and embryonic, but will tend to grow through use and opportunity for expression.

Our festivals, then, must be real children's festivals, in which all have opportunity for doing and giving of their best. "Joy" in a celebration is a deep-rooted emotion in the heart of man, based upon the capacity to feel primitive group or crowd emotion, and finds its satisfaction in the observance of ritual and routine. Professor Nunn regards this love of ritual as a form of *unconscious* imitation, which is strongly marked in all young children. Its influence upon both intellect and emotion is powerful, since the child's unconscious imitation of simple rites and ceremonies may, if wisely directed, grow into that conscious self-imposed imitation which binds men together into a society with mutual ideals, aspirations and interests.

The types of festivals that are usually celebrated in schools may be divided into two groups:—

(1) *Festivals that are Seasonal or Religious, or both.*—These are often survivals of pagan customs; and appeal to strongly rooted impulses in children. Such are the festivals of Spring or Summer, May Day or Harvest, and Christmas, with its Nativity and Mystery Plays. These festivals are characterised by song, dance and drama; they have, in fact, a very concrete ritual, are picturesque and full of colour. Although they may be enjoyed by people of all ages, they make a special appeal to young children, and to older children of less-developed intelligence, such as are to be found in the special schools for the mentally defective boys and girls.

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The music and dancing—especially folk dancing—make an appeal to this latter group of children where other methods often fail, and exercise a controlling and refining influence upon character as well as movement.

(2) *The Civic or National Festivals.*—In these, events or people of national importance are remembered. In this group would come such celebrations as “Commonwealth” Day and “Peace” Day, as well as the remembrance of great men and women, viz. soldiers, poets, artists, musicians and explorers. These celebrations, except perhaps for Commonwealth Day, and then only in the simplest and most pictorial form, are not within the scope of the young child’s understanding; their place is in the Junior and the Senior Schools.

Our Infants’ School festivals will, then, be selected from the first group. To be successful, they must have certain characteristics:—

(1) They must be joyous—this means that the preparation must not be over-rehearsed, or spontaneity will be lost.

(2) They must be simple and child-like in form of presentation, and show restraint in regard to costume and properties.

(3) They must have running through them some central idea which the children will unconsciously absorb. That is to say, the festival must have a message alike for teacher and child, and all ritual, all song, music or drama must contribute to make this message clearer.

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(4) They must strike some personal note and be closely related to the children's emotional and intellectual interests.

Let us, in conclusion, illustrate these ideas by reference to a "Nativity" play for young children. For them, the message of the Nativity is surely the idea of "giving." The simple ritual symbolises the idea that the value of a gift lies not in its material worth but in the loving spirit in which it is made. The costly gifts of the kings lie near the crib, side by side with the humble gifts of the shepherds; while, for the children, the contact with their own lives is made by allowing them to "present" gifts of fruit, toys and pennies—gifts that will later be used to give happiness to some poor or sick child.

The Nativity play, given by young children, can be a very wonderful experience, if the production is simple and, as we have suggested, not much rehearsed, so that the natural gesture and spontaneous expression of the unselfconscious child is preserved. Young children accept and dramatise with simplicity and great sincerity the Christmas story and so convey its message to an audience, not only of children, but of grown-ups too—particularly to parents. Let us quote in illustration of this the words of one poor mother who watched with reverent wonder the Nativity play in which her child took the part of Mary. In taking farewell of the head mistress, she said, "Thank you for asking me, miss; it

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was lovely; it fair makes you want to be good, doesn't it?" We may believe that for her the message of "Christmas" had indeed been conveyed through the children's interpretation of the story.

This brings us to the consideration of the links between school and home, by means of "Open Days" and "Parents' Guilds." On *Open Days* parents visit the school by the invitation of the head mistress and staff. These occasions are usually quite informal in character; the parents enter the classrooms and watch the children at their ordinary occupations, and have the opportunity for a few 'minutes' chat with the teachers. The class programme may be augmented with song, dance and dramatisation of stories given at intervals in the school hall by each class in turn.

On occasion, the "Open Day" is of a special nature, for the children of the top class, on the eve of their promotion to the Junior School, are often allowed to entertain "mothers," "grannies" or "aunties" for the afternoon. This is a social and festive occasion: the children are helped to prepare simple refreshments, such as cakes, tarts and jellies, backed up with a cup of tea provided by the head mistress; tables are laid and the children wait upon their guests. The afternoon's entertainment concludes with a short programme of songs, dances or dramatic work, in which every child in the class takes part. In its character, this "leave-

taking" function is in the nature of a celebration; it celebrates the child's completion of the first stage of his school career; it represents, as it were, an epitome of his growth from the day when he entered school as a baby of three or four to the present time, when, as a responsible, controlled and independent person of seven and a half years, he is about to start upon his next adventure-life in the Junior School.

The Parents' Association

The conception of an association in which parents and teachers are linked for the mutual promotion of the child's welfare, both in home and school, has been a matter of somewhat slow growth, but in many areas to-day, especially in the poor districts of large towns, excellent work is being done.

Although they may differ a good deal in the nature of their special activities, yet all are animated by the same purpose—the promotion of the interests of children in home and school.

A Parents' Guild usually holds a monthly meeting in the evenings, so that fathers as well as mothers may be free to attend. The meeting may be devoted to business, to discussion of any problems connected with the children's home life, to a lecture followed by a discussion, to practical classes of different types, or to a purely social gathering.

In some societies, courses of simple lectures given by

a doctor, nurse or child psychologist have done much to influence parents upon questions of sleep, nutrition and the treatment of behaviour difficulties. In some guilds, courses of story-telling or simple handwork have been organised; in others, afternoon classes in children's dressmaking, sick nursing and first-aid are held. In all these ways, the school attempts to influence the treatment of the child in the home; but the idea of an "association" is a reciprocal one, and parents are encouraged to share in the life of the school. Parents' committees often undertake to manage such school affairs as the sale of school blazers, dresses and caps; the organisation of a "jumble" sale for the benefit of the school fund; or, in a poor district, they may help to run a "boot" club.

When help is needed for school functions, such as a celebration or school play, both fathers and mothers are glad to offer it, *e.g.* in the making of scenery, play dresses and properties.

Nor is the "social service" aspect of school life neglected, for many Parents' Associations are actively interested in the work of giving friendly sympathy and tangible help to schools in poor areas, by means of gifts of clothes, toys, Christmas parties and excursions into the country during the summer.

For the parents, the "Guild" often means a new and stimulating interest in life; for the teachers, it is, of course, an additional demand upon their time and

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energy, since all meetings are held after school hours. But all teachers who are members of a flourishing "Parent-Teacher" Association are unanimous in their opinion that the extra time demanded is more than repaid by the fuller understanding that the parents gain of the work that the school is attempting on behalf of the children.

SUGGESTIONS FOR INDEPENDENT WORK

(1) Describe any "festival" in which, as a child, you took part. Try to estimate its effect on you.

OR,

(2) Describe any school festival that you have observed as a student, and give your opinion of its value.

(3) Visit a school in your own home neighbourhood which has a Parent-Teacher Association. Find out as much as you can about its activities. Prepare the material as a short paper to read in your discussion groups.

(4) Observe and make records of the different types of "morning assembly" that you meet during your various periods of "school practice."

CHAPTER XIII

A SUMMARY OF ACHIEVEMENT

IN the preceding chapters we have attempted to give some idea of the principles and practice of the modern Infants' School. In conclusion, let us try to estimate the gain to a child who has shared in its free active experiences.

We will consider first the child as a whole. If we have rightly directed his vital energy from the day when he first entered the nursery class, he will have grown from a baby, whose chief interest was in *play*, to a child intent upon purposive work: a purpose that will be shown equally in the construction of objects of his own invention, in the painting of a picture, in the pursuit of the more formal subjects of the curriculum or in service for the life of the school as a whole.

When free opportunity has been given, he will have developed resource and independence; will show a sense of responsibility not only for himself but also for others; he will give evidence of a protective attitude towards the younger children and give a willing obedience to the wishes of those who are older and, let us hope, a little wiser than himself.

IN CONCLUSION

Through free and happy relations with his teachers, his attitude will have become fearless: he will have learned to speak well and frankly, to act honestly and to take a social interest in those who surround him and in a simple way in the children and people who lie outside his little world.

From the intellectual point of view, if our work has been successful, the child will be animated with a zest for learning; he will have a good fund of knowledge gained primarily from first-hand experience, but reinforced by ideas that he has assimilated from his teachers, from pictures and, in a lesser degree, from books. His mind will be stored with familiar folk and fairy tales, with song, verse and music appropriate to his age. Even in the most crowded town areas, we may hope that he will have had opportunity to experience the beauty of Nature; will have learned to look at growing things with wonder, to feel intuitively the miracle of trees, flowers and birds, to love the warm sun, the blue sky and the fleecy clouds and rejoice in the buoyant wind and the sparkling snow.

Through play, through vigorous bodily exercise, through games and dancing, he will have learned to control his body through his mind.

These are the most important things, and if we have helped the child to achieve them, we may believe that our work has been done. But since we are essentially practical-minded people, we may perhaps speak

briefly of those subjects which form the foundation upon which success in later school work depends. We cannot expect that all children of seven and a half years—with their varied degrees of mental ability—should be able to read, write and spell fluently or show equal power in the manipulation of numbers. Some will have reached a standard far beyond the attainments usual for children of this age; the greater number will have average proficiency; in *all*, desire will have been kindled: it rests with the teachers of the Junior School to see that this interest is not extinguished.

It is important that the teachers of the next stage should be fully informed of the purpose and aims of the Infants' School; should realise the importance of the work that has been done, and learn to look for other values than premature facility with the mechanics of reading and number. It is important that they should not regard a passive recipient attitude in their little pupils as synonymous with "goodness," nor complain that children—who have lived an active independent life in the Infants' School—are "inattentive and lacking in concentration," when they fail to be interested in tasks of a meaningless or boring nature. It is most important of all that the teacher who receives a class on its first entrance to the Junior School should be really acquainted with the work that has gone before. She (or he) should have spent a day or two in observation of these children at work in the Infants' School, and

IN CONCLUSION

should have made herself familiar with each child's individual record of school progress, so that continuity of aim and teaching may be preserved.

The Junior School child, with his rapidly developing powers, his widening range of interests, will eventually need different methods of teaching; for instance, the "subject" method will gradually replace the method of learning through "projects." But the approach to teaching should always be the same: it must start from the child, his abilities, his interests, his desires; it will be most successful when the junior teacher does not seek to impress upon his pupils that the time has come to put away childish things, but shows a generous recognition of what has been done in the earlier stage and builds his work upon these really sound foundations.

SUGGESTIONS FOR INDEPENDENT WORK

(1) You are the teacher in charge of the top class of the Infants' School. Prepare notes for the guidance of the Junior School teacher who will receive your class on—

- (a) The specially gifted children.
- (b) The child or group of children who are not up to the standard normal for their age in reading or number.
- (c) The child with marked ability in one direction.
- (d) The child who may present "behaviour" difficulties.

(2) What suggestions might you prepare for the teacher in the Junior School in regard to methods, books and material, that you have found successful in special cases of retardation in—

- (a) Reading.
- (b) Number.

APPENDICES

APPENDIX I

APPARATUS AND MATERIAL FOR THE NURSERY CLASS

Muscular Play.—Slide board or chute, rocking-horse, fun boat, sec-saw, climbing frame, pedal toys, carts for pulling and pushing, balls, etc.

Sensory and Muscular Play.—Building blocks, in a variety of shapes and of different weights. Sand trough, damp sand and set of modelling toys. Water trough (with tap), floating toys and measures. Hammer peg, nail-a-peg, and nail mosaic. Collection of odd pieces of wood, nails and hammers. Wooden constructional toys, to be fitted together, *e.g.* train, motor-car, lorry, boat. Clay or plasticene for modelling. Crayons (large, non-greasy). Easels, paper and painting materials. Beechwood silhouettes of animals and objects. Letters and figures, for drawing round. *Occupations leading to more precise ideas of Form and Number, e.g.* Montessori Pink Tower, Broad Stair, Long Stair, plain wooden insets. Sorting form board, with coloured wooden shapes to be threaded on pegs. Colour matching and sorting material (home-made). Peg and bead mosaics for pattern-making. Jigsaw puzzles in great variety.

Dramatic and Fantasy Play.—Play-house (with home-made wooden furniture). Utensils for domestic activities, *e.g.* bath, rubbing board, mangle, pegs, irons, etc., pastry

SOURCES FOR STORY, VERSE AND MUSIC

board, rolling-pin, bowls, pastry cutters, brooms, brushes, dustpans, dusters. Dolls, doll's beds, doll's furniture (large), perambulator, tea-sets, dresser. Teddy bear and other soft animal toys. Noah's ark; sets of wooden animals, wooden toy sets of people, and vehicles, for use with brick-building. Toy crane. Large shop (home-made), for simple shopping plays. Property box, with dressing-up material.

Sound and Music.—Percussion band instruments. Gramophone and nursery rhyme records. Dulcimer. Set of bells. Toy musical box.

Observation and Language Development.—Pictures and picture books in great variety. Nature calendar, Nature table, etc.

APPENDIX II

SOURCES FOR STORY, VERSE AND MUSIC

Story

ANDERSEN, HANS, *Fairy Tales*.

BOULT, F., *Asgard and the Norse Heroes*. Everyman.

BROWNE, F., *Granny's Wonderful Chair*. Everyman.

BUCKLEY, E. T., *Children of the Dawn*.

CANTON W., *A Child's Book of Saints*. Everyman.

DASENT, *Popular Tales from the Norse*.

GASK, L., *Legends of Our Little Brothers*.

GRIMM, *Household Tales*.

GUERBER, *The Myths of Greece and Rome*.

HOLBROOK, F., *Nature Myths*.

JACOBS, *English Fairy Tales; Indian Fairy Tales*.

TEACHING IN THE INFANTS' SCHOOL

- KEARY, A. AND E., *The Heroes of Asgard*.
KINGSLEY, C., *The Heroes*.
LANG, A., *Fairy Tale Series, Blue, Red, Orange, etc.*
LOFTING, H., *The Dr. Dolittle Series*.
MACDONALD, G., *Fairy Tales*.
MARZIALS, A. M., *Stories for the Story Hour*.
WILDE, O., *The Happy Prince, and Other Stories*.
WIGGIN, K. D., *The Story Hour*.

Verse

- BELLOC, H., *The Bad Child's Book of Beasts*.
DE LA MARE, W., *Peacock Pie*.
FARJEON, E., *Nursery Rhymes of London Town; Fifty New Poems for Children; Fifty London Rhymes for Children* (collected by Blackwell).
FYLEMAN, R., *Fairies and Chimneys; Fairy Flute; Fairy Green*.
LEAR, E., *Book of Nonsense*.
MILNE, A. A., *When We Were Very Young; Now We Are Six*.
ROSSETTI, C., *Sing Song*.
STEVENSON, R. L., *Child's Garden of Verse*.
STRUTHER, J., *Sycamore Square*.
YARDLEY, M., *The Child's Book of Verse*. (Teachers' Manual.)
YARDLEY AND BRIGHT, *The Child's Book of Verse, Books I and II*.
Book of One Thousand Poems. Evans.

Music

- BUCK, P. C., *The Oxford Nursery Song Book*.
M'Bain, Mrs. Murray, *Incidental Music; Traditional Songs and Tunes for Little Folks*.
SHAW, M., *Songtime; Nature Songs*.
TEGNER, A., *The Children's Sing Song from Sweden*.

LIST OF READING BOOKS

APPENDIX III

Reading Books

John and Mary Readers. Schofield & Sims.

Beacon Readers, Books III-VI. Ginn.

Happy Way to Reading. (Introductory Reader and Books I-V.) Blackie.

Fundamental Reading. (Graded Series.) Macmillan.

The Happy Venture Readers. (Books I-IV.) Oliver & Boyd.

First Steps for Tiny Folks. O.U.P.

Supplementary Books

Supplementary Readers I-VI. *Happy Way to Reading.* Blackie.

Supplementary Readers I-IV. *Beacon Books.* Ginn.

ASHFORD, F., *My Books of Dolls.* Harrap.

CAREY, M. C., *The Everyday Series—*

Postman, Policeman, Farmer, Baker, Milkman. Dent.

POTTER, B., *The Peter Rabbit Series.* Warne.

For Children of Superior Reading Ability

BRAGDON, F., *Tell Me the Time, Please!* Pitman.

LEE, F. H., *Children's Book of Dogs; Children's Greek Stories; Children's Robin Hood; Children's Book of Animal Tales.* Harrap.

The Heritage Story Books (First Series). Longmans.

(These books provide a variety of interesting exercises for independent work.)

TEACHING IN THE INFANTS' SCHOOL

For Children of Poor Ability in Reading

The Speedwell Reader, Book I. Cassell.

(Suitable for the older backward boy or girl, who does not respond to the ordinary very simple reading primer: it is based on the interests of children of seven years onwards.)

Apparatus and Material for use with *Happy Way to Reading* Sets I to XI. Blackie.

Material useful in preparation of Occupations, etc.

A Signwriter, one-inch high rubber stamps of capital and small letters.

A Mount Cutter, useful in the preparation of cards.

Look and Learn Picture Book (very useful little pictures for the preparation of various occupations). Woolworth.

APPENDIX IV

SUGGESTIONS FOR NUMBER GAMES FOR CHILDREN OF SIX TO SEVEN AND A HALF YEARS

Dominoes.—Dominoes can be used for gaining ideas of Number at all stages from five to eight years. In Chapter III suggestions for the simpler work have been made. For the six to eight year old children more advanced games or puzzles can be devised.

Individual Games.—The child has a complete set of card (to be obtained from Arnold, Leeds) or wooden dominoes and a chequered ($\frac{1}{2}$ -in, chequers) number book.

Slips of card with suggestions for discovery are prepared by the teacher, e.g.:

(1) "*Make 12.*"—"Find two dominoes whose spots together add up to '12.' You can make 14 pairs with one

SUGGESTIONS FOR NUMBER GAMES

set of dominoes. Draw some of your pairs in your number book."

(2) "*Make 16.*"—"Using two dominoes, see if you can find seven ways of making '16.' Copy your pairs in your book."

(3) "Arrange three dominoes (without using doubles) so that the sum of the spots in the top row is equal to the sum of the spots in the bottom row, like this:

$$\begin{array}{ccc} 6 & 4 & 0 \\ \hline 4 & 5 & 1 \end{array}$$

See if you can make six sets from one box."

(4) "Arrange three dominoes so that the sum of the spots in the top row is twice the sum of the spots in the bottom row. You can make eight sets with one box of dominoes."

(5) "Make an open square with four dominoes, so that the spots on each side of the square add up to the same number. You can make five squares from one box of dominoes."

A sample of each idea is given on the back of the slip, so that the child is given an idea of the way to start. It is also a good plan to take one or two group lessons with the dominoes to prepare the children for individual work.

A variety of group games can also be played. These will be found in any book of card and other games, or in an encyclopædia.

Playing-cards.—A variety of group games can be played with ordinary playing-cards. (For the children's use, the half-size Patience cards are good, as they are easier to hold.)

TEACHING IN THE INFANTS' SCHOOL

ADDITION. "*Make 10.*"—A game for four players. Remove the "court" cards and the four "tens." Share out the remainder of the pack among the players. Each player looks through his hand to find any two cards that together "make 10." He places these face upwards on the table in front of him. Then each player in turn draws a card from his neighbour, and continues to "make 10" as he can. The first player to get rid of all his cards scores 1 point, and each player gets 1 point for each correct pair that he has made.

"*Make 12.*"—Use the pack of cards, less the "court" cards and the aces. Deal as above. The game consists in making pairs of cards whose pips add up to 12. Scoring as above.

SUBTRACTION.—Games involving subtraction can also be played, although these do not use *all* the cards in the hands, as in addition. The scoring must be different, *e.g.* we may decide that the one who first makes three or four pairs with the given difference is the winner of the round. Deal round the pack (without the "court" cards). Decide on the "difference" that is to be found, *e.g.* "5." The children look through their hand of cards to find any two cards in which the difference is "5," *e.g.* 8-3, 10-5, etc. These are placed face upwards on the table, the smaller on top, but a little below the bigger, so that the figures can be seen. The players then draw from each other until one player has the required number of pairs, three or four as may have been decided. Points are scored. Then the cards are shuffled, re-dealt, and another number chosen as the "difference," *e.g.* "4" or "6."

"SNAP."—When the children have gained facility in making pairs of "10" or "12" through the games described

SUGGESTIONS FOR NUMBER GAMES

above, the same idea can be applied to "Snap." This gives speed in rapid recognition of the pairs. A pack containing cards 1-9 is dealt round. Each player holds his cards in a pile in his hand face downwards. The cards are played round in order; the cards being placed face up in front of the player. When any two cards together make 10, the player who first calls "Snap" receives both the piles of cards. The game goes on until one player has won all the pack.

Later, cards bearing figures 1-9 can be prepared by the teacher (four of each number). The method of playing is the same as for the playing-cards. This game gives excellent practice upon the "addition number bonds."

The idea could also be applied to multiplication, *e.g.* whenever a "2" turns up, the highest number on the table can be multiplied by "2"; so, if 9, 7, 5 were lying exposed and "2" came next, the first child to call " $2 \times 9 = 18$ " would win, either all the exposed cards on the table or the two piles, the *one* under the "9" and the *one* under the "2," whichever makes the game shorter.

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